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Bureau of Land Management

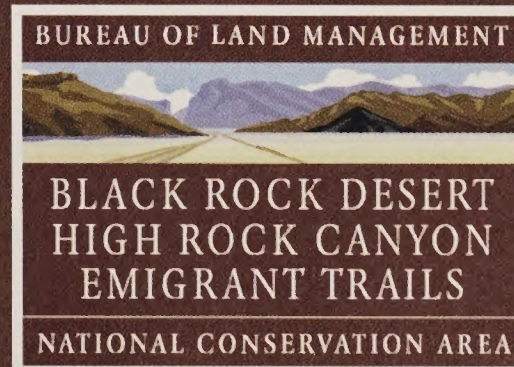
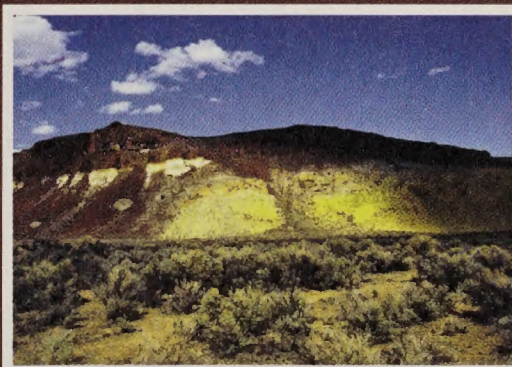
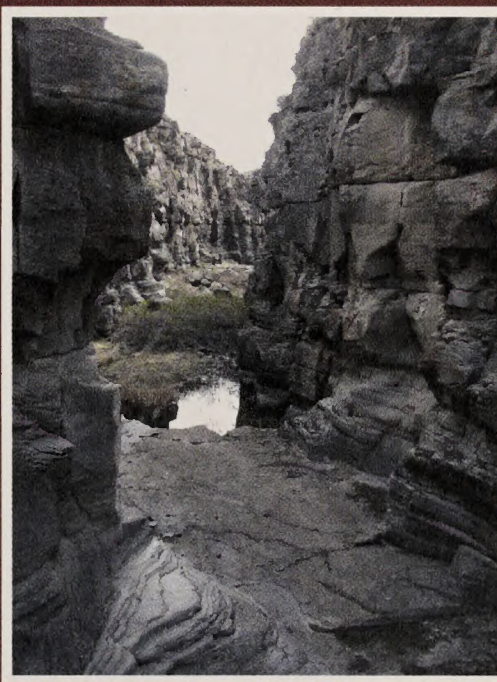
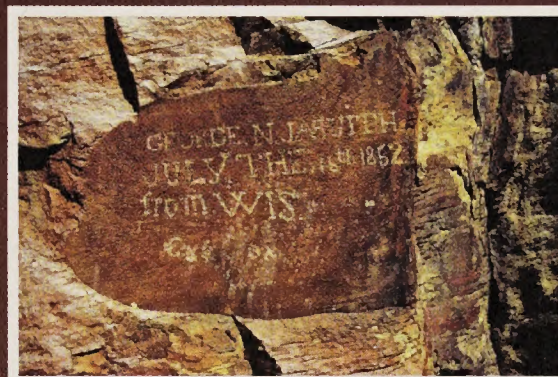
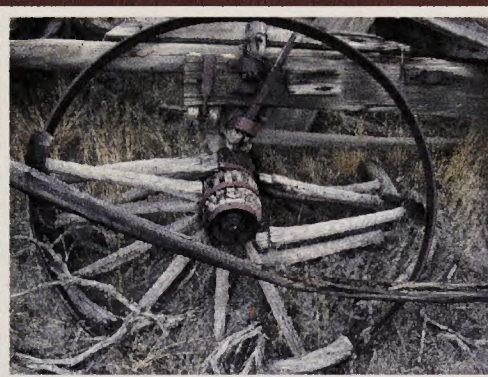
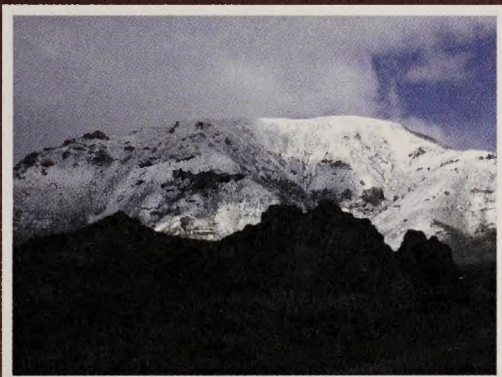
Winnemucca Field Office
Winnemucca, Nevada

Surprise Field Office
Cedarville, California

February 2003

Draft Resource Management Plan and Draft Environmental Impact Statement for the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area (NCA) and Associated Wilderness, and Other Contiguous Lands in Nevada

Volume 1



It is the mission of the Bureau of Land Management to sustain the health, diversity, and productivity of the public lands for the use and enjoyment of present and future generations.

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Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area (NCA) and associated wilderness, and other contiguous lands in Nevada

DRAFT

Resource Management Plan and Environmental Impact Statement

Volume I

Prepared by:

**United States Department of the Interior
Bureau of Land Management**

**Winnemucca Field Office
Winnemucca, Nevada**

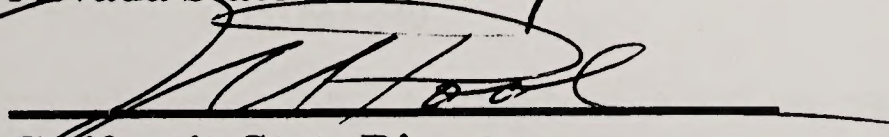
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Cedarville, California**

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February 2003



Nevada State Director



California State Director

1-27-03

Date

1/27/03

Date

Black Bear Desert-Hill Rock Camp on Inyo National
Conservation Area (NCA) and associated resources and other
contiguous lands in Nevada

DRAFT

Resource Management Plan
Environmental Impact Statement

Volume 1

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Prepared by

United States Department of the Interior
Bureau of Land Management

Western Field Office
Winnemucca Nevada
Bureau Field Office
Ely Nevada

February 2001

Title

Title

Nevada State Director

California State Director



United States Department of the Interior

Bureau of Land Management

Nevada State Office
P.O. Box 12000 (1340 Financial Blvd.)
Reno, Nevada 89520-0006
<http://www.nv.blm.gov/>

In Reply Refer To:
1610 (NV-910/CA-910)

January 27, 2003

Dear Reader:

Enclosed for your review and comment is the Draft Environmental Impact Statement (EIS) and Resource Management Plan (RMP) and for the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area (NCA) associated wilderness areas, and other contiguous lands in Nevada. This Draft EIS and RMP sets forth the proposed management prescription for the 1.2 million acres of public lands managed by the Bureau of Land Management in this area located in the Great Basin province in northwestern Nevada.

In December 2000, the President signed the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Act of 2000 (the NCA Act), establishing the NCA and 10 associated Wilderness areas to conserve, protect, and enhance resources associated with the Applegate-Lassen and Nobles Trails corridors and surrounding areas for the benefit and enjoyment of present and future generations. The Act directed the BLM to prepare a resource management plan and EIS to address the planning concerns and set the management direction for this area. When finalized, this EIS and RMP will fulfill that legislative requirement.

Lands affected by this Draft EIS and RMP include only those BLM-administered lands covered by the NCA Act, as well as other contiguous lands that have been identified to have similar planning concerns. Lands in this latter category include the South Playa, the Lahontan Cutthroat Trout Area (LCT Area), and routes that either bound Wilderness areas or Wilderness Access Routes that provide vehicle access to the interior of the Wilderness Areas. The planning area is shown in the numerous maps that are included as part of this Draft EIS and RMP.

The announcement in the Federal Register that this Draft EIS and RMP is available commences a 90-day public comment period during which members of the public are encouraged to review the document and provide comments concerning the Draft EIS and RMP. During this period, comments may be submitted using several methods: in writing to the NCA Manager, Bureau of Land Management, Winnemucca Field Office, 5100 E. Winnemucca Boulevard, Winnemucca, Nevada 89445; online via the project website, <http://www.BlackRockHighRock.org>, or in person at one of several public meetings scheduled for April 2003:

- BLM Field Office, North and South Meeting Rooms, 5100 E. Winnemucca Boulevard, Winnemucca, NV, (775) 623-1500
- Gerlach Community Center, 410 Cottonwood Street, Gerlach, NV, (775) 557-2601
- BLM Field Office, Conference Room, 602 Cressler Street, Cedarville, CA, (530) 279-6101
- Scottish Rite Masonic Center, Bruno Room, 6151 H Street, Sacramento, CA, (916) 452-5881
- BLM Nevada State Office, Great Basin Rooms A & B, 1340 Financial Boulevard, Reno, NV, (775) 861-640

All meetings will be held 4:00 p.m. to 7:00 p.m. The specific dates for the meetings will be announced in local newspapers, in the project newsletter and on the project website, <http://www.blackrockhighrock.org>.

Following the public comment period, a Final EIS will be prepared and will consider the comments received from the public.

How to Use this Document

This Draft EIS and RMP is contained in two volumes. Volume 1 contains the text of the Draft EIS and RMP, and Volume 2 contains the accompanying maps and appendices. Collectively, these volumes constitute the full Draft EIS and RMP.

Volume 1 is presented in six chapters, consistent with Federal requirements that guide the preparation of an EIS. Chapter 1 sets the stage for the Draft EIS and RMP by describing the purpose and need for its preparation as well as providing key background information. Chapter 2 describes several potential management approaches, or "alternatives," that have been developed as part of this effort. These alternatives all represent reasonable sets of management decisions that are considered and evaluated in this EIS; these decisions apply to the different resources found throughout the planning area. Chapter 3 describes the environment, or resources, that will be affected by the decisions contained in the individual alternatives, and Chapter 4 describes the impacts of the decisions on these resources. Chapter 5 describes the actions undertaken to provide open and effective participation from members of the public, as well as from key organizations, governmental agencies and tribes that all have a stake in the outcome of this process. Volume 1 of the Draft EIS and RMP concludes with Chapter 6, a list of those individuals who prepared this Draft EIS and RMP.

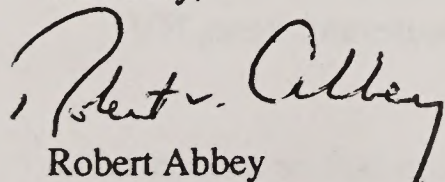
The final decision may be one of the alternatives in its entirety or a combination of various actions contained in more than one of the alternatives. As a result, members of the public are invited to provide specific comments on the alternatives or particular elements contained in any of the alternatives as well as associated impacts to help the BLM develop final decisions for the Final RMP and EIS.

Chapter 1 provides more detailed descriptions of the process undertaken to develop this Draft EIS and RMP. These include more comprehensive descriptions of the concept of alternatives, how they are developed, and how they are used in the Draft EIS and RMP decision-making process. Graphical icons are used within the text of some of the chapters to denote particular meaning. These icons are explained at the beginning of the chapters where they are used. Moreover, each chapter begins with a more lengthy discussion of its purpose and how it is used in this process. As a result, please make an effort to carefully read the beginning sections of each chapter because they contain helpful clarifications of descriptions.

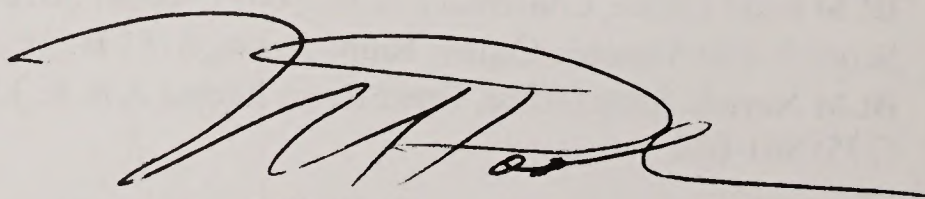
More than 80 maps and numerous appendices support the text contained in Volume 1. These are contained in Volume 2, and should be consulted frequently, as necessary, when reviewing the text contained in Volume 1. In many cases, decisions or other discussions contained in this Draft EIS and RMP refer directly to maps contained in Volume 2. In fact, many decisions themselves are "map-based," which means that the maps corresponding to such a decisions contain the information that describes the decisions, not necessarily the decision itself. As a result, it would be erroneous to rely on the text alone to understand these decisions in such cases.

For more information, contact David Cooper, NCA Manager, at the above address or by calling 775-623-1500. We appreciate your interest and comments on this document and look forward to continuing the EIS and RMP process.

Sincerely,



Robert Abbey
Director, Nevada State Office
Bureau of Land Management



Mike Pool
Director, California State Office
Bureau of Land Management



Little High Rock Canyon in the Little High Rock Canyon Wilderness

Executive Summary

BUREAU OF LAND MANAGEMENT



BLACK ROCK DESERT
HIGH ROCK CANYON
EMIGRANT TRAILS

NATIONAL CONSERVATION AREA

Executive Summary

ES.1 INTRODUCTION

The Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Act of 2000 (the Act) gave special designation to 1.2 million acres of public lands managed by the Bureau of Land Management (BLM) in northwestern Nevada, collectively known as "Black Rock-High Rock." The Act designated 815,000 acres as a National Conservation Area (NCA) and 752,000 acres as 10 Wilderness Areas (378,000 of the Wilderness acres overlap the NCA). The NCA and associated Wilderness Areas were created specifically to protect one of the last nationally significant segments of the historic emigrant trails used by pioneers to travel from the eastern States to Oregon and California, and a landscape largely unchanged since the mid-1800s. Black Rock-High Rock contains an array of unique historic, cultural, educational, wildlife, riparian, and wilderness resources, threatened species, and recreational values. The Act also identified grazing and special recreation permit events as valuable existing land uses that are expected to continue.

The Act directed the BLM to prepare a resource management plan and EIS to address the planning concerns and set the management direction for this area. When finalized, this Draft EIS and RMP will fulfill that legislative requirement.

Designating Black Rock-High Rock as an NCA and Wilderness Areas placed new emphasis and requirements on resource uses in the area, prompting the need to prepare a Resource Management Plan (RMP) to address these changes. The preparation of an RMP constitutes a major federal action, requiring detailed analysis in an Environmental Impact Statement (EIS) under the National Environmental Policy Act (NEPA). This document constitutes both a Draft EIS and RMP. This Draft EIS does not evaluate the designation of the NCA and Wilderness Areas; rather it develops several resource management alternatives that fully comply with the NCA Act, the Wilderness Act and other applicable laws, regulations and policies, and analyzes the environmental consequences associated with implementation of each alternative. Additionally, approximately 15,000 acres in the south playa, 15,000 acres in the Lahontan Cutthroat Trout (LCT) Area, and 3,000 acres included in wilderness access and boundary roads and road corridors located outside the NCA that are not included in the designation are evaluated in this plan because they are contiguous lands with similar planning issues.

These designated and adjacent areas, totaling approximately 1,220,000 acres of public lands, are referred to collectively as the planning area.

All land use decisions made by BLM, including those contained in this Draft RMP and EIS, comply with existing laws, regulations and policies. Nevertheless, the range of alternatives presented in this planning document along with the impacts anticipated from their implementation are even more constrained than those typically found in other BLM management plans because the NCA Act and the Wilderness Act further constrain the decisions that can be applied to the NCA and Wilderness portions, or 97.4 percent of the planning area. The remaining 2.6 percent of the planning area is not covered by the NCA Act and Wilderness Act and is constrained only by other existing laws, regulations and policies.

ES.2 ISSUES

For planning purposes, an "issue" is defined as a matter of controversy, dispute or general concern over resource management activities, the environment or land uses. The following issues were identified from agency, Tribal, State, and general public comments that were considered during the development and analysis of the planning alternatives.

- To what degree should access be provided to the plan area for the public and for private landowners and how can this be accomplished while preserving the "primitive character" of the NCA and protecting the area's resources?
- Should the historic trails be conserved or restored, and how can these trails and their setting be adequately protected while providing opportunities for public education, enjoyment and awareness of this resource?
- How can private rights and permits, such as grazing, be accommodated while meeting the intent of NCA designation?
- How can diverse recreational opportunities be provided while protecting and preserving resources within the planning area?
- To what extent should management activities interfere with nature to protect and enhance

Wilderness Areas, while accommodating and enhancing the visitor experience?

- How can wildlife resources be conserved and protected, while providing opportunities for hunting and fishing?
- How can visitor services and educational materials be provided to enhance the visitor experience while protecting resources in the planning area?

ES.3 VISION AND GOALS

The NCA and Wilderness designations are part of BLM's National Landscape Conservation System (NLCS). The vision of these premier designations included in the NLCS is "BLM's Great American Landscapes: healthy, wild and open." Broad goals were developed to ensure that the RMP would be consistent with the vision, spirit and intent of the legislation that established the NCA and Wilderness Areas, existing statutes, regulations and policy, and in consideration of issues identified during the public scoping period described in Chapters 1 and 5, as well as in Appendix A.

- Provide present and future generations of Americans with unique opportunities to experience what the emigrants experienced.
- Protect a large area of the Northern Great Basin in a current predominantly natural state, and prevent further decline of associated resources.
- Support visitor services and resource management activities in a manner that protects the planning area's resources.
- Manage the planning area's plant and animal species in a manner that will provide for their continued presence as part of an ecologically healthy system.
- Manage Wilderness areas for the use and enjoyment of visitors in a manner that will provide opportunities for solitude and primitive experiences while leaving them unimpaired for future use and enjoyment as wilderness.
- Allow for social and economic benefits compatible with the protection of the area.

- Provide for the protection of cultural, religious, and agricultural values developed from historical practices in the planning area.
- Cooperate and partner with local, state, tribal and other collaborating agencies and private interests to support resource management activities and ensure consistency among plans and policies where consistent with Federal laws and regulations.

ES.4 ALTERNATIVES

Four alternatives, including a No Action Alternative, are analyzed in this Draft EIS and RMP. The No Action Alternative provides a baseline for resource management under the NCA Act. It is the continuation of current management practices that are consistent with existing laws, regulations and policies. The three action alternatives were developed to present a range of management options to guide decision making for managing uses and activities within the planning area. These management decisions are intended to minimize adverse impacts to cultural and natural resources while providing for compatible resource use and development opportunities, consistent with current law, regulation and policy.

There are some resource management decisions that are contained in all alternatives, including the No Action Alternative. These decisions are referred to as "common to all" decisions, and they are either required by the NCA Act, other laws or regulations, or provide general guidance for resource management. In most cases, these decisions are the same throughout all alternatives. In some cases, however, these "common to all" decisions may vary slightly in terms of their degree, although they appear in each of the alternatives.

ES.4.1 NO ACTION ALTERNATIVE (Continuation of Current Management)

The No Action Alternative would continue the present management approach under existing

Management Framework Plans (MFPs), guided by the NCA Act and existing law and policy. Changes to existing management practices would be made for the sole purpose of compliance with the NCA Act and other applicable laws and regulations.

Overnight camping would be allowed throughout the entire planning area with minimal restrictions, existing transportation routes would be brought up to standard, and the planning area outside Wilderness would be open to OHV use. The existing designations of Wilderness, Wilderness Study Area (WSA), and Areas of Critical Environmental Concern (ACEC) would remain within their current boundaries. Other resources would be managed in accordance with their existing plans, regulations, and policy. Proposed activities would be reviewed on a case-by-case basis and resource inventory would occur as these reviews occur. The South Playa would remain open to location, entry, and patent, and all leasable minerals except sodium and potassium. Visitor information would be limited and provided only at off-site locations.

ES.4.2 ALTERNATIVE A (Emphasis on Natural Processes)

Management activities emphasize providing visitors the opportunity to experience, in a self-directed fashion, the physical setting that the emigrants and other early visitors to the area experienced in the mid-1800s. Visitors would experience the area as an unspoiled cross-section of the northwestern Great Basin where natural processes have been allowed to continue. There would be limitations on visitor activities to protect both visitors and resources. The focus of resource management would minimize intervention into natural processes to allow for their continued progression.

Recreational use in the planning area would be managed, in part, by the level of facilities provided, allowable uses, and restrictions on recreational activity. This would be guided by a zoning system designed to maintain solitude and the undeveloped nature in the backcountry and minimize conflicts among different types of user groups. Existing transportation routes would be brought up to standard, and only upgraded as needed. OHV use would be more limited in some areas and some areas would be closed. Cultural and paleontological

resources would be more aggressively managed through inventory and use categories to emphasize conservation with some scientific use allowed. More restrictions would apply in Wilderness Areas and ACECs, and activities in these areas would be limited.

The Lahontan Cutthroat Trout WSA (the only WSA in the planning area) would increase in size from about 12,500 to 15,000 acres, the Soldier Meadows ACEC would increase by 3,463 acres to a total of 3,770 acres, and the High Rock Canyon ACEC would remain unchanged from its current designation. All 16 eligible Wild and Scenic Rivers would be recommended suitable for Wild and Scenic designation. Vegetation would be managed more aggressively and more prescribed fire would be used outside of wilderness to achieve healthy plant communities. More restrictions and limitations would also apply to utility rights-of-way, land use permits, and locatable, leasable, and saleable minerals on federal lands within the planning area. Visitor information materials would be developed to guide self-discovery and would be provided only at off-site locations.

ES.4.3 ALTERNATIVE B

(Emphasis on Response to Change
[Preferred Alternative])

This alternative also emphasizes providing visitors the opportunity to experience, in a self-directed fashion, what the emigrants and other early visitors to the area experienced in the mid-1800s. Unlike Alternative A, however, this alternative employs a management approach that would more readily identify and accommodate changing conditions over time by allowing the application of management decisions responsive to these changing conditions. This alternative has the flexibility to respond to increasing visitation and resource deterioration that could occur over the long term.

A zoning system would be implemented under this alternative; however, restrictions on recreational activity would be applied as needed to mitigate resource damage. Existing transportation routes would be brought up to standard, and upgraded or downgraded in response to visitor use as needed. OHV use would be limited in some areas and some areas would be closed. Cultural and paleontological

resources would be more aggressively managed through inventorying and categorizing according to type to emphasize public use; however, sites could be provided with more protection if necessary. Some restrictions would apply in Wilderness Areas and ACECs, and activities in these areas would be limited. The WSA would increase in size to 15,000 acres, the High Rock Canyon ACEC would be reduced by 18,343 acres to 5,664 acres, and the Soldier Meadows ACEC would increase by 1,770 acres to 2,077 acres. Only eligible Wild and Scenic Rivers outside Wilderness Areas would be recommended suitable for Wild and Scenic designation. Vegetation would be managed to restore healthy plant communities. Wildland fire and prescribed fire would be used to meet vegetation objectives. Allotment boundaries in three grazing allotments would be modified to conform to historic livestock grazing use.

Existing wildlife water developments would be maintained and new developments may be constructed to meet the objectives of that area. Utility rights-of-way and land use permits would be subject to limitations to meet resource objectives. Locatable, leasable, and saleable minerals on federal lands within the planning area would be limited. Interpretive techniques would be developed to mitigate resource damage, some interpretive information would be available on-site, and a visitor center would be developed outside the NCA. Partnerships would also be established to provide support services and encourage research.

ES.4.4 ALTERNATIVE C

(Emphasis on Visitation and
Interpretation)

Emphasis focuses on more active visitor support in this alternative. Resource management activities allow for necessary intervention at varying levels in geographic areas to enable both the natural and historic context to be experienced while ensuring that resource protection is not compromised.

A zoning system would also be implemented under this alternative and restrictions on recreational activity would be applied as needed to mitigate resource damage. More recreational facilities, including trails and campsites, would be established and there would only be minimal restrictions on

recreational use. Existing transportation routes would be brought up to standard, and upgraded or downgraded in response to visitor use as needed. OHV use would be limited in some areas and some areas would be closed. Cultural and paleontological resources would be more aggressively managed through inventorying and categorizing according to type to emphasize interpretation and scientific discovery; however, sites could be afforded more protection if necessary. Some restrictions would apply in Wilderness Areas and activities in these areas would be limited. The WSA would increase in size to 15,000 acres and none of the eligible Wild and Scenic Rivers would be recommended suitable for Wild and Scenic designation. The High Rock Canyon and Soldier Meadows ACEC designations would be removed. Vegetation would be managed to restore healthy plant communities. Wildland fire and prescribed fire would be used to meet vegetation objectives. Allotment boundaries in three grazing allotments would be modified to conform to historic livestock grazing use. A permanent facility would be constructed to support wild horse and burro management.

Only some existing wildlife water developments would be maintained and limited new developments could be constructed to meet resource objectives. More utility rights-of-way as well as limited geothermal development and land use permits would be accommodated. The South Playa would remain open to geothermal and saleable minerals development. Some interpretive information would be available on-site, and a visitor center would be developed in or near the NCA. Partnerships would also be established to provide support services and encourage research.

ES.5 ENVIRONMENTAL CONSEQUENCES

The anticipated direct and indirect impacts of implementing the No Action alternative and three action alternatives were evaluated based on the affected environment and are summarized in this section. The issues and impacts identified during the collaborative planning process are also described in

two attachments: Table ES-1, which provides impacts anticipated with each alternative, and Table ES-2, which summarizes major issues/impacts and the Draft EIS range of alternatives addressing them.

ES.5.1 SUMMARY OF IMPACTS FROM NO ACTION ALTERNATIVE

Potential impacts associated with selection of the No Action Alternative (Continuation of Present Management) would include the effects from increased visitors without increasing the appropriate management capabilities to protect resources. Effects could include competition among visitors, inadvertent damage to resources, conflicts between resources and resource uses, and increased ground disturbance. Existing management decisions could also enhance the planning area by maintaining or improving important values associated with ACECs, Wild and Scenic Rivers, and visual quality. Areas historically available for grazing would be maintained.

ES.5.2 SUMMARY OF IMPACTS FROM ALTERNATIVE A

Potential impacts associated with the selection of Alternative A (Emphasis on Natural Processes) would include the protection and subsequent improvement of habitat and recovery needs for special status species and species composition. The management actions within Alternative A would lead to overall decreased public access. The site conservation emphasis would act to enhance and protect cultural, paleontological, and Native American values, however, in some instances it could limit public involvement with those values. The restrictions associated with this Alternative would create some decreases in recreational opportunities; however, solitude, naturalness, primitive recreation, and visual quality in much of the Planning Area would generally be enhanced. Livestock grazing and grazing operator flexibility would be maintained. Areas grazed at the time of enactment would be maintained.

ES.5.3 SUMMARY OF IMPACTS FROM ALTERNATIVE B (PREFERRED)

Potential impacts associated with the selection of Alternative B (Emphasis on Response to Change) would include changes in access to varying portions of the planning area. Greater access to some areas and less restrictive actions associated with this Alternative would generally result in increases in recreational opportunities and interaction with resources. This could also lead to potential increases in ground disturbance and inadvertent damage to resources. Overall increased protection for habitat and potentially increased species populations would generally be achieved through adaptive management techniques, not the activity restrictions in other alternatives. Management activities could result in some limited reductions in solitude, naturalness, and outstandingly remarkable values associated with streams eligible for Wild and Scenic River designation. Grazing operator flexibility would generally be maintained. Areas grazed at the time of enactment would be maintained.

ES.5.4 SUMMARY OF IMPACTS FROM ALTERNATIVE C

Potential impacts associated with the selection of Alternative C (Emphasis on Visitation and Interpretation) would include those effects from greater public access and variety of recreational uses. Primitive recreation and naturalness could be diminished, as well as wilderness characteristics, ACEC and Wild and Scenic River values, and sensitive habitats in the long-term. Emphasis on public interpretation and scientific discovery would act to enhance or protect resources, as would implementing visitor restrictions to prevent resource damage. Nevertheless, inadvertent damage, vandalism, and looting could increase from improved public access and removal of ACEC designations. Upgraded roads, increased public access, and increased visitation could lead to increased disturbance of grazing activities. Other management initiatives could offset effects by encouraging

appreciation and protection of resource uses. Areas grazed at the time of enactment would be maintained.

ES.6 CUMULATIVE IMPACTS

No major cumulative impacts related to implementation of any of the alternatives analyzed in the Draft EIS and RMP have been identified at this time as irreversible or irretrievable. Implementation of the alternatives could result in impacts interrelated with other future actions in and adjacent to the planning area, but none are reasonably foreseeable at this time. The period of potential cumulative impact is defined as the life of the RMP, which is 20 years.

Table ES-1. Summary of Impacts by Alternative

Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Transportation and OHV Routes	<ul style="list-style-type: none"> Increased safety for drivers except along pristine trail segments and sensitive resource areas where it will slightly decrease. Slightly reduced public access in sensitive resources areas. Slight increased costs to BLM and Pershing County. Increased public awareness and safety information. Temporary decreased public access during large permitted events. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> Continuing access would result in slight increases in traffic, which would increase road maintenance requirements. 	<ul style="list-style-type: none"> Public access maintained during large permitted events. Reduced access would slightly reduce road maintenance requirements. 	<ul style="list-style-type: none"> Public access maintained during large permitted events. Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Increased public access to a wider range of vehicles would result in slight increases in traffic, which would increase road maintenance requirements and road upgrades.
	--	--	<ul style="list-style-type: none"> Increased public access in the Black Rock Range. Increased traffic and cost for development of visitor center. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative B.

Executive Summary

Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Cultural Resources	<ul style="list-style-type: none"> Decreased integrity and potential damage from road improvements, fire, rehabilitation projects, grazing, wild horse & burro presence, and mineral entry. Increased site stability and protection and decreased disturbance of inventoried sites. Reduced damage to historic trails from inventories and closures. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> Increased protection in areas with limited Off-Highway Vehicle (OHV) use. 	<ul style="list-style-type: none"> Increased site stability or protection and decreasing vandalism and looting by limited OHV use. 	<ul style="list-style-type: none"> Increased inadvertent site disturbance and damage, vandalism and looting by increasing access. Reduced site damage and decreased vandalism and looting by limiting OHV to designated routes, limited recreational uses and locations. 	<ul style="list-style-type: none"> Decreased inadvertent damage, vandalism and looting by restricting camping and recreational visitation.
	--	--	<ul style="list-style-type: none"> Enhanced opportunities for scientific study by emphasized public use. 	<ul style="list-style-type: none"> Enhanced opportunities for scientific study by emphasized scientific use.

Executive Summary

Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Native American Values	<ul style="list-style-type: none"> Increased integrity in areas with limited OHV use, spring improvements, Lahontan Cutthroat Trout (LCT) and Desert Dace habitat improvements, and restoring native vegetation. Improved opportunities for traditional users. Inadvertent damage or disturbance to Properties of Cultural and Religious Importance (PCRI) by prescribed fire throughout the planning area. Increased integrity to PCRI by site interpretation and public education. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> Decreased integrity and potential damage from road improvements, fire, grazing, and mineral entry, recreation. 	<ul style="list-style-type: none"> Maintained integrity of PCRI for traditional uses. Alleviated inadvertent damage and disturbances to PCRI. Reduced opportunity for looting, vandalism, and inadvertent damage by visitor restrictions, trail development, and camping restrictions within one-half mile from campsites. Reduced conflicts between users by elimination camping within the High Rock Canyon Area of Critical Environmental Concern (ACEC). 	<ul style="list-style-type: none"> Increased opportunity for traditional uses by designated camping areas and limited grazing and wild horse and burro use. Reduced opportunity for looting, vandalism, and inadvertent damage by visitor restrictions, trail development, and camping restrictions within one-half mile from campsites. Reduced conflicts between users by elimination camping within the High Rock Canyon ACEC. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.

Executive Summary

Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Paleontological Resources	<ul style="list-style-type: none"> Decreased integrity and potential damage from road improvements, open OHV designation, fire, rehabilitation areas, grazing, wild horse & burro presence, recreational use and mineral entry. Increased protection in areas with limited OHV use, closed OHV areas, limited fire suppression, and educating the public. Reduced fossil theft, breakage, vandalism and erosion of sites. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> Potential for fossil theft and vandalism and public use by continuing limited visitor restrictions. 	<ul style="list-style-type: none"> Increased integrity of scientific inquiry and reduced fossil theft, vandalism, and public use by issuing permits. Protecting resources may limit unrestricted rock and fossil collection. 	<ul style="list-style-type: none"> Increased integrity of scientific inquiry and reduced fossil theft, vandalism, and public use by issuing permits. Protecting resources may limit unrestricted rock and fossil collection. 	<ul style="list-style-type: none"> Increased integrity of scientific inquiry and reduced fossil theft, vandalism, and public use by issuing permits.
	<ul style="list-style-type: none"> Increased inadvertent damage and disturbance and opportunities for fossil theft and vandalism by road upgrades and public access. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. In addition, inadvertent damage and disturbance would result from removal of ACEC designations.

Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Wilderness Areas	<ul style="list-style-type: none"> Wilderness characteristics would be maintained by: signing wilderness boundaries, managing closed ways for natural conditions, controlling weed infestations, rehabilitating burned areas, gathering excess wild horses and burros, continuing to exclude grazing from the Mahogany Creek exclosure, acquiring wilderness inholdings from willing sellers, and providing public education. Naturalness and/or solitude/primitive recreation could be decreased by continued maintenance of existing small game water developments, mineral developments along boundary roads, allowing unlimited non-commercial rock collection, and continuing to allow cross country OHV travel outside of wilderness. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Wilderness characteristics would be enhanced by: removing existing small game wildlife water developments, withdrawing wilderness boundary roads and vehicle access routes from mineral entry, not allowing rock collection, and only allowing OHV use on designated routes in the majority of the NCA. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Wilderness characteristics would be enhanced by: withdrawing the wilderness boundary roads and vehicle access routes from mineral entry. Naturalness and/or solitude/primitive recreation could be decreased by continued maintenance of existing small game water developments. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Wilderness characteristics would be decreased by: maintaining small game water developments in the Natural Emphasis (NE) wilderness, allowing non-commercial rock collection, and restricting OHV travel to designated routes in the majority of the NCA. Wilderness characteristics would be further enhanced by not maintaining small game water developments in Wild Emphasis (WE) wilderness.

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Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Wilderness Areas (cont'd)	--	<ul style="list-style-type: none"> Wilderness characteristics would be further enhanced by: increased boundary signage, adding all ten inventory units to the LCT WSA, closing all routes in the LCT WSA except for the systems roads, seasonally closing the LCT area to motorized vehicles, excluding grazing from the Stanley Camp Riparian Pasture, excluding predator control activities, and restricting recreation use. 	<ul style="list-style-type: none"> Wilderness characteristics would be further enhanced by: adding the ten inventory units to the LCT WSA, restricting OHV use to designated routes in the majority of the NCA, excluding grazing in the Stanley Camp Pasture, and restricting recreational activities that are impacting wilderness values. 	<ul style="list-style-type: none"> Wilderness characteristics would be further enhanced by: adding nine of the ten inventory units to the LCT WSA, excluding the Stanley Camp Riparian Pasture from grazing on a regular basis, excluding predator control in WE wilderness, and increased public education.
Special Designations (ACECs)	<ul style="list-style-type: none"> Decreased disturbance of sensitive species habitat by continued and limited OHV use, continuing limited grazing, continued seasonal closures, acquiring inholdings, controlling noxious weeds, gathering wild horses & burros, full fire suppression. Continued disturbance of sensitive species habitat by continued road use in ACECs and camping next to sensitive species habitat. Increased visitor appreciation from improved road conditions, limited visitor disturbance, maintenance of primitive character, and public education. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Increased habitat disturbances by removal of the ACEC designations within the High Rock Canyon and Soldier Meadows areas. Increased disturbances of habitats and primitive character on 24,313 acres from providing more access, wider range of vehicles, increased visitor use and OHV use by removing those areas from ACEC status.
		<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.

Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Special Designations (Wild and Scenic Rivers)	<ul style="list-style-type: none"> Improved riparian conditions via implementing Rangeland Health Standards, improving road conditions, rehabilitation of burned areas, continued exclusion of grazing in sensitive areas, gathering wild horses and burros, managing streams to meet LCT requirements, continuing segregation of the LCT Area, continued restriction of camping within 300 feet of springs, and public education. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> Decreased riparian conditions from continued grazing and camping next to sensitive resources. 	<ul style="list-style-type: none"> Reduction in riparian damage by limited, seasonal, and full closure of roads in the LCT area. Improved riparian conditions via designating the rustic portions of the LCT area and High Rock Canyon as day use only areas. 	<ul style="list-style-type: none"> Reduction in riparian damage by limited, seasonal, and full closure of roads in the LCT area. Reduced impacts from camping and recreational uses by seasonally closing and allowing camping only in designated sites in the Rustic portions of the LCT area and High Rock Canyon. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative B.

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Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Vegetation	<ul style="list-style-type: none"> Improved vegetation by implementation of Rangeland Health Standards, restoration of wilderness ways, rehabilitation of wildland fires, and treatment of noxious weeds. Disturbance of vegetation from road use (adjacent to roads) OHV use, issuing rights-of-way increasing access, and allowing mineral development. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. In addition, vegetation conditions would be further improved from implementing Land Health Standards to all uses and programs and actions to meet the needs of wildlife and landscape goals. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A.
	--	--	--	<ul style="list-style-type: none"> Maintained species composition and productivity by not using prescribed fire burns.
Livestock Grazing	<ul style="list-style-type: none"> Maintenance of existing livestock grazing levels and grazing allotments. Decreased costs associated with grazing operations by improving roads and maintaining class of livestock. Increased costs associated with grazing by protection of special status species. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. In addition, increased costs associated with the amount of fencing and maintenance. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. Also, operator flexibility improved by adjustment to allotment boundaries. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A.
	--	<ul style="list-style-type: none"> Decreased vehicle access from vehicle route closures. Alter livestock grazing use areas in vicinity of Solider Meadows ACEC. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. 	--
	--	--	<ul style="list-style-type: none"> Decreased operator flexibility to manage wildlife habitat. 	--

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Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Wild Horse and Burros	<ul style="list-style-type: none"> Decreased travel time and maintenance by improving the Pershing County portion of Solider Meadows Road. Enhanced genetic viability of wild horse and burro populations by retaining current HMAs. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. In addition, decreased appropriate management levels by implementing Land Health Standards. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. Increased public awareness and appreciation by wild horse and burro support facility.
Fire Management	<ul style="list-style-type: none"> Reduced fire suppression costs, reduced need for aerial fire suppression, decreased access time by maintaining road system to designated uses. Reduced size of fires by restored burned and green strip areas and control of noxious weeds. Increased fire size and costs to areas not currently being grazed will maintain high fuel loads. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. In addition, increased fire protection by reducing fuel loads and size of fires, and mixing fire suppression equipment and techniques. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A.
	<p>--</p>	<ul style="list-style-type: none"> Increased fire suppression cost associated with route closures. 	<ul style="list-style-type: none"> Increased potential for human caused fire by providing new access in the Black Rock Range. Reduced effective fire suppression resources by decreasing and revised route designations. 	<ul style="list-style-type: none"> Increased potential for human caused fire by providing new access in the Black Rock Range.

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Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Fish and Wildlife	<ul style="list-style-type: none"> • Reduced disturbance to wildlife by seasonal closure of High Rock Canyon Road. • Decreased erosion and sedimentation of aquatic habitat and enhanced wildlife habitat by restoration of native vegetation. • Surface disturbances and mineral development would increase erosion and sedimentation and degrade wildlife habitat. • Reduced inadvertent habitat disturbance by camping restrictions of 300 feet from springs. 	<ul style="list-style-type: none"> • Impacts would be similar to the No Action Alternative. • In addition, decreased erosion and sedimentation of aquatic habitat by increased opportunities for native vegetation restoration. • Also, improved wildlife habitats by implementation of Land Health standards to all uses and programs. • Also, improved habitats for sagebrush dependent species by implementation of actions to benefit sage-grouse. 	<ul style="list-style-type: none"> • Impacts would be similar to Alternative A. • Impacts would be similar to Alternative A. 	
	<ul style="list-style-type: none"> • Continued impact to fish and wildlife habitat, damage to vegetation, increased erosion, and harassment of animals by unlimited OHV use. 	<ul style="list-style-type: none"> • Decreased erosion and inadvertent disturbances and enhanced habitat by restricted and full closure of some OHV routes and restricted camping within 200 feet from water. 	<p>--</p>	<p>--</p>
	<p>--</p>	<ul style="list-style-type: none"> • Reduced human disturbances from restrictions on recreation use in ACECs. 	<ul style="list-style-type: none"> • Reduced human disturbances from restrictions on recreation use in ACECs. 	<ul style="list-style-type: none"> • Increased loss of habitat by removal of High Rock Canyon ACEC designation and increased visitation facilitated by upgrade to roads.

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Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Special Status Species	<ul style="list-style-type: none"> • Direct disturbances to special status species habitat by continued use of vehicle routes and recreational uses. • Maintained or improved basalt cinquefoil habitat by limited OHV use, continuing limited grazing, controlling noxious weeds, gathering wild horses & burros, and habitat rehabilitation. • Improved habitat for special status species by seasonal closures of OHV roads and limited human related disturbances. 	<ul style="list-style-type: none"> • Impacts would be generally similar to the No Action Alternative; however, decreased disturbance to species and habitat from OHV limitations, recreation use restrictions, and implementation of sage-grouse plans. 	<ul style="list-style-type: none"> • Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> • Impacts would be similar to the No Action Alternative.
	--	<ul style="list-style-type: none"> • Improved habitats and species viability from implementation of Land Health Standards, seasonal restrictions in High Rock Canyon, and fencing at Soldier Meadows. 	<ul style="list-style-type: none"> • Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> • Decreased disturbance to species and habitats by implementation of Land Health Standards.
	--	--	--	<ul style="list-style-type: none"> • Potential loss of bighorn sheep and populations by removing High Rock Canyon ACEC designation.

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Impacts on		No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Visual Resources	<ul style="list-style-type: none">Decrease in visual quality from soil disturbances, loss of vegetation by vehicular and OHV use.	<ul style="list-style-type: none">Enhanced visual resources by closing, limiting, and downgrading access to OHV use.	<ul style="list-style-type: none">Impacts would be similar to Alternative A.	<ul style="list-style-type: none">Decreased visual quality by developed public access and increased surface disturbances and vegetation damage by less OHV limitations.	
	<ul style="list-style-type: none">Increased signage and gates would affect the visual quality.Decreased viewshed quality by developed public access.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.	
	<ul style="list-style-type: none">Minimal reduction in visual quality by mineral and energy extractive uses.	<ul style="list-style-type: none">Improved visual quality from limiting development in the South Playa area.	<ul style="list-style-type: none">Impacts would be similar to Alternative A.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.	
	<ul style="list-style-type: none">Reduced visual quality by higher concentrations of camping and limited restrictions on recreation use.	<ul style="list-style-type: none">Alleviated surface disturbances and vegetation damage by limited OHV use, day-use only areas, and restricting Class III and IV events to designated areas of the Front Country.	<ul style="list-style-type: none">Impacts would be similar to Alternative A.	<ul style="list-style-type: none">Impacts would be similar to Alternative A.	

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Impacts on	No Action		Alternative B (Preferred)	
	Continuation of Present Management	Emphasis on Natural Processes	Emphasis on Response to Change	Alternative C
				Emphasis on Visitation and Interpretation
Water Resources	<ul style="list-style-type: none"> Increased hydrologic function by enhancing vegetative cover to rehabilitate and protect areas. Enhanced water quality by restricted camping and recreational uses to more than 300 feet from springs. Localized soil disturbance, compaction and erosion by placement of utility corridors. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> Decreased soil erosion and sedimentation by maintaining current levels of road classifications. 	<ul style="list-style-type: none"> Reduced soil erosion and stream sedimentation by designating routes as open, closed, limited, and/or functional reclassification. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Increased soil erosion and stream sedimentation by roads remaining open for OHV use.
	<ul style="list-style-type: none"> Decreased hydrologic function by grazing in un-grazed areas. Increased soil erosion and stream sedimentation and decreased hydrologic function by minimal camping and recreational restrictions. 	<ul style="list-style-type: none"> Increased hydrologic function by seasonal road closures and limited grazing, camping and access. Reduced water contamination by withdrawing federal lands from mineral development within the South Playa area. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
	--	<ul style="list-style-type: none"> Reduced soil erosion from implementation of Land Health Standards for all uses and programs. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A.
	--	<ul style="list-style-type: none"> Decreased vehicular traffic, reduced soil erosion and stream sedimentation by adding 10 parcels to the WSA. 	--	<ul style="list-style-type: none"> Decreased vehicular traffic by adding 9 parcels into the WSA designation. Increased soil erosion, stream sedimentation and water contamination by potential development of geothermal resources.

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No Action Continuation of Present Management		Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Impacts on Lands and Reality	<ul style="list-style-type: none"> Maintain private property disposal options and reduce inholdings by continued land acquisition. Encourage placement of future utilities within existing corridors would accommodate development on private lands. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Location of future utilities affected by eliminating two existing utility corridors. No impacts in non wilderness areas for utility rights-of-way. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Increased development cost while accommodating development by encouraging a buried utility corridor in Rustic and Front Country zones. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> Retain opportunities for development by leaving the South Playa area open to all leasable minerals. Opportunities for development in the South Playa area by federal lands would be maintained. No impacts in non-wilderness areas for utility rights-of-way. Increased cost to development by VRM Class II to Black Rock Range and High Rock Canyon. 	<ul style="list-style-type: none"> Decreased development potential by withdrawal of federal lands. Impacts would be similar to the No Action Alternative. Decreased cost to development by designation of South Playa to VRM class III. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. Impacts would be similar to the No Action Alternative. Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Retain opportunities for geothermal development only in the South Playa area. Impacts would be similar to the No Action Alternative. Impacts would be similar to Alternative A.
Minerals and Energy				

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Impacts on		No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Air Quality		<ul style="list-style-type: none"> Periodic smoke increases by wildland and prescribed fire techniques. Increased fugitive dust by increased visitor activity, mining operations, maintenance and development, and special recreational permitted uses. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
		<ul style="list-style-type: none"> Increased fugitive dust by maintaining system roads and continuing OHV use. 	<ul style="list-style-type: none"> Decrease in fugitive dust by decreasing routes available for OHV use. Decreased intensity and frequency of fugitive dust by limiting recreation uses and size per year. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Increased fugitive dust by upgrading system roads or changing routes and providing greater public access.
Soils		<ul style="list-style-type: none"> Decreased soil disturbances, compaction and erosion by improved road maintenance levels and limited access to High Rock Canyon and LCT WSA. Decreased soil disturbances, compaction and erosion by limited use of fire suppression activities. 	<ul style="list-style-type: none"> Reduced soil disturbance, compaction, and erosion by limited and seasonal vehicle access, and limited use of fire suppression activities. Localized soil disturbance and erosion by fewer roads and limited OHV use. 	<ul style="list-style-type: none"> Impacts would be similar to Alternative A. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
		<ul style="list-style-type: none"> Increased potential for soil disturbance, compaction, and erosion by least restrictive camping and other recreational uses. 	<ul style="list-style-type: none"> Reduced soil disturbance, compaction, and erosion by day-use designations and restricted recreational location and duration. 	<ul style="list-style-type: none"> Reduced soil disturbance, compaction, and erosion by day-use designations and restricted recreational location and duration. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
		<ul style="list-style-type: none"> Short-term soil disturbance by utility corridor placement. Increased soil disturbances by increased access to inholdings, mining activities, and limited camping. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. In addition, increased potential for soil disturbance, compaction, and erosion by geothermal resources in the South Playa area.

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Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Recreation	<ul style="list-style-type: none">Improved access leading to potential crowding and loss of solitude.	<ul style="list-style-type: none">Potential increased traffic and loss of solitude, but expanded recreational opportunities due to road upgrades.	<ul style="list-style-type: none">Potential increased traffic and loss of solitude compared to Alternative A, but expanded recreational opportunities and maintenance of environmental settings due to road upgrades/downgrades.	<ul style="list-style-type: none">Potential increased traffic and loss of solitude, but expanded recreational opportunities due to road upgrades, when compared to Alternative B.
	<ul style="list-style-type: none">Increased access through road and easement acquisition would enhance recreational opportunities.	<ul style="list-style-type: none">Increased access through road and easement acquisition would enhance recreational opportunities. Road closures would decrease motorized opportunities.Displacement of cross-country vehicle users due to route designation.	<ul style="list-style-type: none">Impacts would be similar to Alternative A.	<ul style="list-style-type: none">Impacts would be similar to Alternative A.
	<ul style="list-style-type: none">Wilderness signing would reduce user conflicts and enhance primitive recreation.Implementing the Soldier Meadows Activity Plan would provide enhanced recreation opportunities and improved protection of resources, but may cause displacement and diminish the undeveloped character of localized areas.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none">Restricting vehicular travel on pristine trail segments would slightly decrease recreational opportunities, but would provide increased protection of significant resources.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.	<ul style="list-style-type: none">Impacts would be similar to the No Action Alternative.

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Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Recreation (cont'd)	<ul style="list-style-type: none"> Potential loss of rare resources due to limited collection restrictions. 	<ul style="list-style-type: none"> Enhanced preservation of rare resources and displacement of rockhounds by prohibiting collection. 	<ul style="list-style-type: none"> Increased protection of rare resources and displacement of rockhounds, compared to the No Action Alternative, by limiting collection and requiring a permit, but less displacement than Alternative A. 	<ul style="list-style-type: none"> Limiting collection of rocks, fossils and petrified wood and restricting collection in Hanging Rock Petrified Forest would enhance the preservation of rare resources without the degree of visitor displacement that is likely under Alternatives A and B.
	--	<ul style="list-style-type: none"> Emphasizing site conservation in cultural resource management would provide increased protection of significant resources, but would limit interpretive opportunities. 	<ul style="list-style-type: none"> Managing cultural resource for public use would allow for more interpretive opportunities than Alternative B, but less than under Alternative C. 	<ul style="list-style-type: none"> Emphasizing site interpretation for cultural resources would provide the greatest interpretive opportunities.
	<ul style="list-style-type: none"> Managing for the life history requirements of LCT and managing springs to reduce impact to desert dace may restrict recreational activities in riparian areas. Increased resource protection and visitor displacement by prohibiting camping within 300 feet of springs. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Decreased freedom of choice in campsite location leading to visitor displacement and increased competition, as well as increased resource protection, by prohibiting camping within 200 feet of water. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> Wildlife and horse and burro management using motorized/aerial access would decrease natural quiet and solitude, while enhancing wildlife values and resource protection. Enhanced wildlife viewing opportunities by maintaining the Watchable Wildlife Sites. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.

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Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Recreation (cont'd)	<ul style="list-style-type: none"> Reduction in primitive character due to potential mineral and energy development activities. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> Developing an interpretive/outreach plan would reduce resource impacts, improve visitor safety, and create additional recreational opportunities. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Enhanced undeveloped character and loss of interpretive and wildlife related opportunities by prohibiting new construction, and eliminating existing facilities/developments. However, new interpretive opportunities through self-guided tours would be available. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Interpretive opportunities would be greater than under Alternative A. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. Interpretive opportunities would be maximized under this Alternative.
	<ul style="list-style-type: none"> Requiring surface protecting devices and the use of dead and down wood for campfires would inconvenience some users, but will minimize signs of human disturbance. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.

Executive Summary

Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Recreation (cont'd)	<ul style="list-style-type: none"> Increased visitor competition in long-term by continued unregulated visitor use. 	<ul style="list-style-type: none"> Increased protection of resources and increased visitor displacement due to limitations of group size and duration of stay. Increased protection of resources, primitive character, and increased visitor displacement due to seasonal closures and camping restrictions in areas containing sensitive resources. 	<ul style="list-style-type: none"> There would be less net loss of camping opportunities under this Alternative when compared to Alternative A, but displacement may still occur as a result of designating sites in sensitive areas. Developed campgrounds may also detract from the undeveloped character of the area. Similar protection of resources and primitive character when compared to Alternative A, but slightly decreased visitor displacement due to seasonal closures. Improved visitor safety and preservation of resources by fencing and boardwalks around hot springs. 	<ul style="list-style-type: none"> The lack of use limitations would result in impacts similar to the No Action Alternative. Impacts to camping from seasonal closures would be minimized due to greater access and newly developed camping opportunities. Improved visitor safety and preservation of resources by fencing and boardwalks around hot springs.
	--	<ul style="list-style-type: none"> Additional trail opportunities would be available with the development of the Desert Trail through the NCA. 	<ul style="list-style-type: none"> Increased trail opportunities and decreased visitor conflict with the development of user-specific trails. 	<ul style="list-style-type: none"> Increased trail opportunities available through day-use and multi-day loops.
	<ul style="list-style-type: none"> Times and locations for permitted activities would not be changed, however, long-term impacts to solitude and access for dispersed users would be likely. 	<ul style="list-style-type: none"> Increased competition for location and times available for permitted events, but enhanced access and solitude for dispersed users. 	<ul style="list-style-type: none"> Increased competition for location and times available for permitted events compared to the No Action Alternative, but less than under Alternative A. Impacts to dispersed users would be greater than under Alternative A. 	<ul style="list-style-type: none"> Impacts would be similar to the No Action Alternative.

Executive Summary

Impacts on	No Action Continuation of Present Management	Alternative A Emphasis on Natural Processes	Alternative B (Preferred) Emphasis on Response to Change	Alternative C Emphasis on Visitation and Interpretation
Social and Economic Conditions	<ul style="list-style-type: none"> • Increase in visitation by Special Recreation Permitted events, expanded publicity, and increase in public services. • Increased visitor days by special recreation permits, which contributes to the regional economy. 	<ul style="list-style-type: none"> • Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> • Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> • Impacts would be similar to the No Action Alternative.
	<ul style="list-style-type: none"> • Increased costs associated with permit stipulations required for mining and extraction operations that are in the VRM I. • Increased costs for road maintenance, law enforcement, and search and rescue operations. 	<ul style="list-style-type: none"> • Impacts would be similar to the No Action Alternative. 	<ul style="list-style-type: none"> • Enhanced opportunities for scientific research by conservation of area resources. • Increased costs to management, law enforcement, road and maintenance, and search and rescue operations by increased special recreation permits and visitor days. 	<ul style="list-style-type: none"> • Impacts would be similar to Alternative B.
	<ul style="list-style-type: none"> • Reasonable mineral development, increased employment for construction phase of ore exploration. 	--	--	<ul style="list-style-type: none"> • Maintained opportunities for geothermal development in the South Playa.

Table ES-2. Major Issues/Impacts and the Draft RMP Range of Alternatives Addressing Them

Issues/Impacts		Range of Alternatives Addressing Them	
Access and Transportation (including OHV)			
To what degree should access be provided to the plan area for the public and for private landowners and how can this be accomplished while preserving the “primitive character” of the NCA and protecting the area's resources?		<p>Transportation: Ranges from maintaining existing BLM road system with minimal upgrades to substantial upgrades in road condition to allow a wider range of vehicles to access remote areas.</p> <p>OHV Designations: Ranges from maintaining open OHV designation on non-wilderness portions to designating large open and limited areas outside wilderness. Within limited areas, route designations would range from closure of a few miles of routes to closure of many miles of routes.</p> <p>Access to Private Lands: No range proposed, access to private landowners would be granted using the ROW process or Land Use Permits in wilderness areas (constraint of legislation).</p>	
Historic and Cultural Resources (including emigrant trails)			
How should the trails be conserved or restored and how can the trails and their setting be adequately protected while providing opportunities for public (education) enjoyment and awareness of this resource?		<p>Historic Trails: Protection specified in legislation constrains range. Viewshed to be managed conservatively, VRM Class I or II. Limitations on camping near sensitive sites, closure of trail segments to vehicle use.</p> <p>Cultural Resources: Sites placed into use categories that range from protection emphasis to public education emphasis.</p>	
Private Interests: Livestock Grazing, Minerals & Energy			
How can private rights and permits, such as for grazing, mining and geothermal energy be accommodated while meeting the intent of NCA designation, and should any changes or restrictions be implemented to the current regulation of private rights?		<p>Grazing: Continuation of grazing is specified in legislation so the range of alternatives is narrow. Actions focus on protection of specific sites with potential conflicts with grazing.</p> <p>Minerals & Energy: 98.4% of the Planning Area is closed to mineral entry by legislation. The small areas not closed have low mineral potential and high resource values so the range of alternatives is narrow. There is a potential for geothermal energy production in the South Playa where the range is from allowing leasing to continue to prohibiting leasing.</p>	
Recreation (Dispersed and Permitted Use)/Visitor Services			
How can an emphasis on the NCA as a “conservation” area and not a “recreation” area be maintained, and how can public access and diverse recreational opportunities be provided while protecting and preserving the natural and cultural resources within the NCA? What visitor services and educational materials should be provided to		<p>Dispersed Recreation: Wide range - from no changes in recreation use to authorizations by permit, lesser or greater camping restrictions, seasonal area closures.</p> <p>Permitted Recreation Events: Wide range - from no changes to limitations on numbers, seasons, locations, and sizes of permitted events.</p>	

Issues/Impacts

Range of Alternatives Addressing Them

enhance the visitor experience and how should these services be provided?

Visitor Services: Wide range - from minimal, low profile onsite signing, limitations on use through selective road maintenance, and providing no visitor facilities; to an active onsite signing and information kiosk program, campgrounds, visitor facilities and outreach efforts.

Wilderness

To what extent should management activities interfere with nature to protect and enhance Wilderness Areas, while accommodating and enhancing the visitor experience?

Wilderness Management: A narrow range of actions is proposed that complies with constraints of several laws.

Wilderness Zones: One alternative would establish two zones in Wilderness: the Wild Emphasis zone (WE) would focus on the wild, untrammled, unmanipulated aspects of wilderness; the Natural Emphasis zone (NE) would focus on restoring natural conditions in areas that have been impacted by human use. Management of both zones in designated Wilderness would be in accordance with the Wilderness Act of 1964, and management of the WSA in accordance with the Interim Management Policy.

Wildlife/Hunting

How can wildlife resources be conserved and protected, while providing opportunities for hunting and fishing?

Wildlife Management: A narrow range of actions is proposed that emphasizes continued management of wildlife populations by the State of Nevada Division of Wildlife, including a range of opportunities for minimum tool management actions within designated wilderness.

Habitat Management: Actions for wildlife habitat emphasize the requirements of the NCA legislation in conjunction with other existing constraints to protect and conserve wildlife resources for future generations.

Wilderness Management Plan: A Wilderness Management Plan (WMP) will be prepared following completion of the RMP. The WMP will contain specific objectives, management actions, and monitoring procedures for wilderness resources in the designated wilderness areas. The WMP will establish the type and level of environmental assessment necessary including "minimum requirement and tool analyses" for all site-specific management actions



Looking across the west arm of the playa into the Calico Mountains Wilderness

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BUREAU OF LAND MANAGEMENT



BLACK ROCK DESERT
HIGH ROCK CANYON
EMIGRANT TRAILS

NATIONAL CONSERVATION AREA

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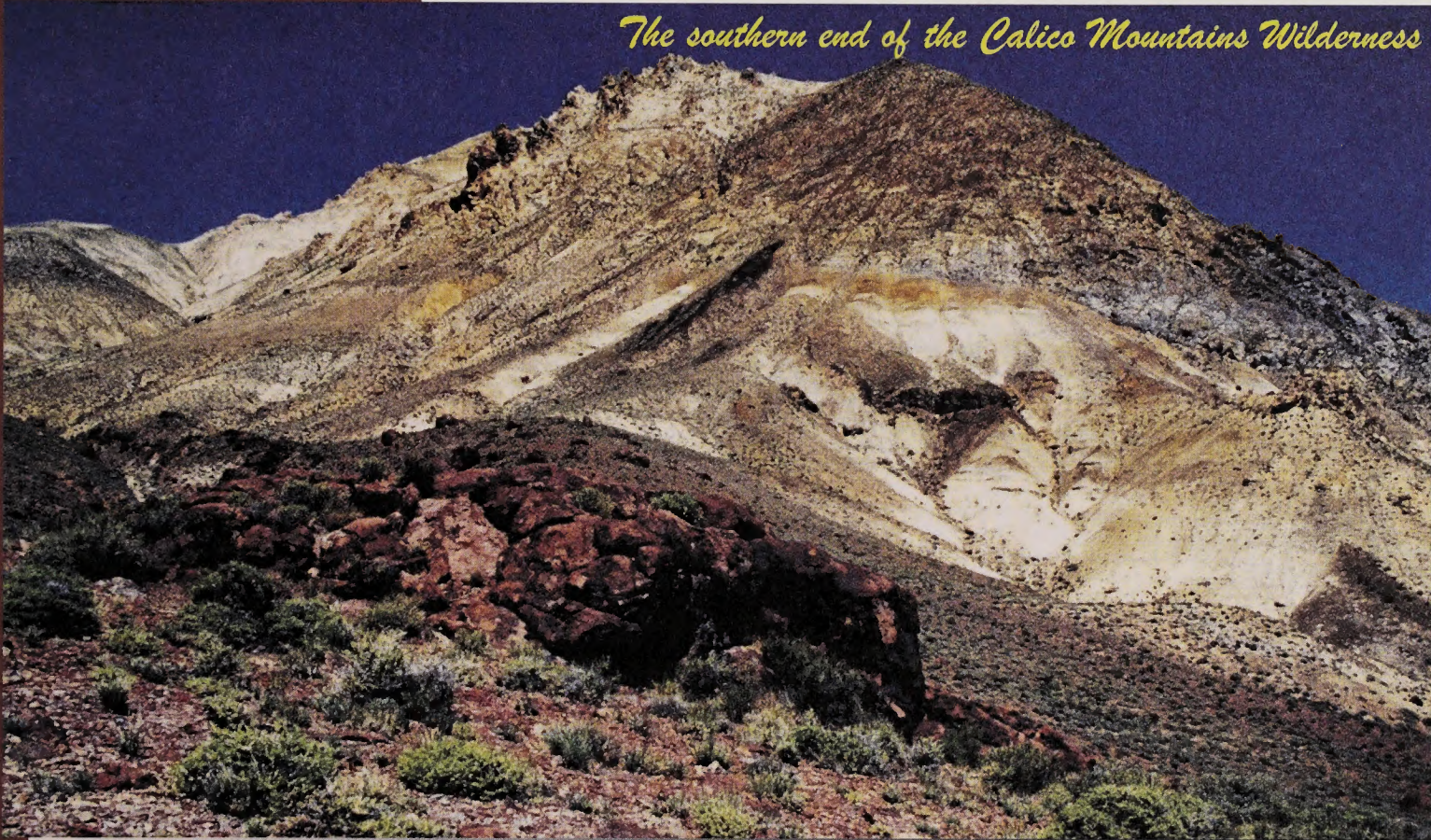
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AAA	American Automobile Association	NE	Natural Emphasis
ACEC	Area of Critical Environmental Concern	NEPA	National Environmental Policy Act
ADI	Area of Development Interest	NLCS	National Landscape Conservation System
Ag	Silver	NNHP	Nevada Natural Heritage Program
AML	Appropriate Management Level	NOI	Notice of Intent
AMP	Allotment Management Plan	NPS	National Park Service
AMR	Appropriate Management Response	NPSP	Non Point Source Pollution
ATM	Automated Teller Machine	NRHP	National Register of Historic Places
ATV	All Terrain Vehicle	NRS	Nevada Revised Statute
Au	Gold	NWSRS	National Wild and Scenic Rivers System
AUM	Animal Unit Month	OCTA	Oregon California Trails Association
BLM	Bureau of Land Management	OHV	Off Highway Vehicle
BMP	Best Management Practices	ORV	Outstandingly Remarkable Value
CFR	Code of Federal Regulations	PCRI	Properties of Cultural and Religious Importance
C&MU	Classification and Multiple-Use Act	PFC	Proper Functioning Condition
CRMP	Cultural Resource Management Plan	PM₁₀	Particulate Matter less than 10 microns in diameter
CWA	Clean Water Act	PNC	Potential Natural Community
DEIS	Draft Environmental Impact Statement	RAC	Resource Advisory Council
DOI	Department of the Interior	RFD	Reasonable Foreseeable Development
EA	Environmental Assessment	ROD	Record of Decision
EIS	Environmental Impact Statement	ROW	Right-of-way
ESA	Endangered Species Act	RMP	Resource Management Plan
FEIS	Final Environmental Impact Statement	RMIS	Recreation Management Information System
FLPMA	Federal Land Policy Management Act	R&PP	Recreation and Public Purposes Act
FO	Field Office	SMAP	Soldier Meadows Activity Plan
FWS	Fish and Wildlife Service	SRP	Special Recreation Permit
GIS	Geographical Information System	USC	United States Code
HA	Herd Area	USBM	U. S. Bureau of Mines
Hg	Mercury	USDA	U.S. Department of Agriculture
HMA	Herd Management Area	USGS	U. S. Geological Survey
ISA	Instant Study Area	VRM	Visual Resource Management
KGRA	Known Geothermal Resource Area	WE	Wild Emphasis
KV	Kilovolt	WHB	Wild Horse and Burro
LCT	Lahontan Cutthroat Trout	WMP	Wilderness Management Plan
MFP	Management Framework Plan	WSA	Wilderness Study Area
MOU	Memorandum of Understanding	WSR	Wild and Scenic River
MUD	Multiple Use Decision		
NCA	National Conservation Area		
NDEP	Nevada Division of Environmental Protection		
NDOW	Nevada Division of Wildlife		

The southern end of the Calico Mountains Wilderness



Chapter 1: Purpose and Need

BUREAU OF LAND MANAGEMENT



BLACK ROCK DESERT
HIGH ROCK CANYON
EMIGRANT TRAILS

NATIONAL CONSERVATION AREA

Chapter 1: Purpose and Need

On December 21, 2000, the President signed the Black Rock Desert–High Rock Canyon Emigrant Trails National Conservation Area Act of 2000 (the NCA Act) into law, establishing the Black Rock Desert–High Rock Canyon Emigrant Trails National Conservation Area (NCA) and 10 associated Wilderness Areas. The NCA and the Wilderness Areas are collectively known as the Black Rock–High Rock planning area. This Draft Environmental Impact Statement and Resource Management Plan (EIS and RMP) analyzes alternatives for managing the Black Rock–High Rock planning area, which is administered by the Bureau of Land Management (BLM) in northwestern Nevada and includes other contiguous areas that are described in Section 1.2 of this chapter. This chapter provides an overview of the planning area, the purpose and need for this plan, the collaborative planning process used to develop this plan, and current status of this effort.

1.1 BACKGROUND

The Black Rock–High Rock NCA and Wilderness Areas were established by Congress to conserve, protect, and enhance resources associated with the Applegate-Lassen and Nobles Trails corridors and the surrounding areas for the benefit and enjoyment of current and future generations. These resources can be historical, cultural, paleontological, scenic, scientific, biological, educational, wildlife, riparian, Wilderness, endangered species, and recreational.

Establishment of Wilderness Areas, administered under the Wilderness Act of 1964, ensures that certain lands are preserved and protected in their natural, primitive condition. The 10 Wilderness Areas that the NCA Act established in the planning area were formed from 11 previous Wilderness Study Areas.

Congress has legislated 33 vehicle access routes that dead-end inside the boundaries of the 10 Wilderness Areas. Seven of these were created in the NCA Act of December 21, 2000,

and 26 were added by passage of the technical amendment to the Act of November 6, 2001, which clarified the description of the NCA. These vehicle access route corridors (100 feet on either side of the routes' centerlines) are not part of any designated wilderness, although they are considered part of the planning area because of their proximity to the NCA and Wilderness Areas and the role they play in the transportation network of the area. Map 3-4 shows the Wilderness access routes.

Overall, the NCA Act, as amended, found that the Black Rock–High Rock planning area contained nationally significant historic trails; an absence of development; unique Great Basin biota; a wilderness landscape largely unchanged since the days of the pioneers; and significant cultural, archaeological, paleontological, and geographical resources. The NCA Act also identified grazing and special recreation permit events as valuable existing land uses that are expected to continue in conjunction with the NCA.

The NCA Act directed the Secretary of Interior, through BLM, to manage the NCA and Wilderness Areas in a way that conserves and protects the resources identified. Subject to the stated purposes of the Act and the conditions established in the RMP, specific land uses were prescribed for the NCA and Wilderness Areas, including the following:

- **Access.** Allow reasonable use, access to private land, and maintenance of existing roads.
- **Off-Highway Vehicle (OHV) Use.** Allow OHV use only in designated open areas and along designated routes.
- **Permitted Events.** Continue to allow large-scale permitted events in low-impact areas.
- **Grazing.** Allow permitted grazing to continue, subject to all applicable laws, regulations, and executive orders.
- **Visitor Service Facilities.** Establish facilities to provide information on area resources.
- **Road Maintenance.** Allow gravel pits for maintaining roads within the NCA.
- **Mineral Rights.** Subject to valid existing rights, all lands are withdrawn from mineral exploration, leasing, and development.

The NCA Act also declared that no buffer zones or limitations on uses of public land outside the NCA would be allowed.

1.2 DESCRIPTION OF THE PLANNING AREA

The Black Rock–High Rock planning area encompasses approximately 1.2 million acres of public lands in northwest Nevada (Map 1-1). This area—approximately the same size as the State of Delaware—extends across the counties of Washoe, Pershing, and Humboldt and is administered by BLM's Winnemucca (Nevada) and Surprise (California) Field Offices.

The planning area is composed of open desert playa, canyons, cliffs, and sagebrush flats. Portions of several mountain ranges are within the planning area and add to the area's physical and biological diversity. The Black Rock Desert Playa, which was part of ancient Lake Lahontan, covers more than 160,000 acres. This playa area is characterized by a large flat area surrounded by dunes and low hummocks.

The High Rock Canyon portion of the planning area is characterized by cliffs, canyons, rimrock and sagebrush steppe habitats. Small shallow lakes and perennial and intermittent streams are scattered throughout the planning area. More than half of the planning area is made up of designated Wilderness Areas, which are managed to maintain the wilderness values of naturalness, solitude and primitive recreation.

Significant cultural resources are found throughout the planning area. These include the Applegate-Lassen Emigrant Trail, which is designated as a national historic trail. Other historic resources include the Nobles Trail, the Western Pacific Railroad, sites related to seven historic mining districts, military sites, and traces of past ranching activity. Prehistoric resources are also well represented, with quarrying sites, lithic scatters, rock shelters and caves, camp sites, and rock art.

The largest part of the planning area consists of the 815,068 acre NCA, whose central focus is the Applegate-Lassen Emigrant Trail. 378,329 acres of the NCA are Wilderness.

The planning area also contains 373,515 acres of Wilderness outside of the NCA.

Finally, the planning area includes three areas not covered by the NCA Act:

- South Playa (14,671 acres),
- Lahontan Cutthroat Trout Area (15,746 acres),
- Corridors for certain roads and routes, such as Wilderness access routes, Wilderness boundary roads, and routes outside of the NCA (a total of 1,821 acres).

These areas were included in the planning area because of their contiguity with the NCA and their similar planning issues.

The NCA Act requirements do not apply to the South Playa and the Lahontan Cutthroat Trout Area. However, this plan will provide the decisionmaking framework necessary to effectively manage these additional areas as well as the NCA and Wilderness Areas.

The 15,746-acre Lahontan Cutthroat Trout Area, shown on Map 2-27, includes BLM-administered lands in four categories:

- The 12,378-acre Lahontan Cutthroat Trout Instant Study Area, which is managed as (and referred to in this plan as) a Wilderness Study Area.
- BLM-administered lands that were acquired from non-Federal owners after the Wilderness Study Area designation, and therefore are not considered part of the Wilderness Study Area. These lands encompass 734 acres.
- BLM-administered lands in a strip of public land between the Wilderness Study Area and the Summit Lake Paiute Indian Reservation. This area encompasses 2,186 acres.
- Other areas and road corridors south and west of the WSA amounting to 448 acres

There are 17,740 acres of private lands contained by the planning area. These lands are not managed by BLM, and are not subject to decisions contained in this planning document.

Table 1-1 summarizes the land area, in acres, of the different portions of the planning area.

Table 1-1. Federal Acreage of Planning Area Units

Planning Area Unit	Land Area (Acres)
NCA	815,068
Wilderness Areas	
Wilderness in the NCA ¹	378,329
Wilderness outside of the NCA	373,515
Lahontan Cutthroat Trout Area	15,746
Lahontan Cutthroat Trout Wilderness Study Area ²	12,378
South Playa	14,671
Road Corridors Not Included in Above Areas	1,821
Total Federal Acreage in the Planning Area³	1,220,821

¹Included in the NCA total

²Included in the Lahontan Cutthroat Trout Area total

³The entire planning area, including the 17,740 acres of private lands, which are not covered by this Plan, totals 1,237,827 acres.

1.3 PURPOSE AND NEED FOR THE RMP

This document constitutes the Draft EIS and RMP for the Black Rock–High Rock planning area. The purpose of this Draft is to provide overarching guidance for BLM’s management of the planning area consistent with the spirit and intent of the NCA Act and other existing statutes, regulations, and policy. The plan also takes into consideration public input received during the scoping period.

The Draft EIS and RMP evaluates and compares current management practices (known as the No Action Alternative) and three potential management alternatives, along with their associated environmental consequences. Understanding these effects will help BLM make an informed decision on the future management direction for the area.

The guidance provided by this plan will enable BLM to manage and allocate uses of the public lands and resources included in the planning area.

1.3.1 NATIONAL LANDSCAPE CONSERVATION SYSTEM

An essential consideration in developing the RMP was that it be consistent with the overall mission of BLM's National Landscape Conservation System (NLCS). The NLCS assembles BLM's premier designations, including NCAs and Wilderness Areas, into an organized system to increase public awareness of the cultural, scientific, educational, ecological, and other values associated with these areas. The overall vision of the NLCS is:

*“BLM's Great American Landscapes:
healthy, wild and open.”*

Five NLCS objectives have been developed to help achieve this vision:

- Above all, commit to conserving, protecting, and restoring special values of the landscape, as directed by BLM's organic act (the Federal Land Policy and Management Act of 1976 [FLPMA]).
- Build and sustain community relationships to foster collaborative stewardship.
- Continue to manage compatible uses and valid existing rights, consistent with the values for which the area was designated.
- Provide opportunities for the individual to explore and discover these special areas.
- Foster scientific research and public education and acquire a better understanding of how to manage these landscapes.

These five objectives have been incorporated into the overall goals of the RMP, which are stated in Chapter 2.

1.3.2 LEGISLATIVE REQUIREMENTS

The NCA Act recognizes that the Black Rock Desert–High Rock Canyon Emigrant Trails NCA provides “unique and nationally important historical, cultural, paleontological, scenic, scientific, biological, educational, wildlife, riparian, wilderness, endangered species, and recreational values and resources

associated with the Applegate-Lassen and Nobles Trails corridors and surrounding areas.”

The legislation directs BLM to develop a “comprehensive resource management plan for the long-term protection and management of the conservation area” within 3 years of the enactment of the NCA Act or by December 20, 2003.

In designating the Black Rock–High Rock planning area as an NCA and Wilderness Areas, the NCA Act placed new emphasis on and imposed new requirements for resource uses within the planning area. These, in turn, required the development of a new RMP for this unique area.

The implementation of the plan constitutes a major Federal action and is therefore subject to the National Environmental Policy Act (NEPA) of 1969. NEPA requires Federal agencies to consider environmental consequences in their decisionmaking process. The President's Council on Environmental Quality issued regulations for implementing NEPA, including provisions on the content and the procedural aspects of the required environmental analysis. The most comprehensive level of analysis is an Environmental Impact Statement, or EIS,—the level being applied to the Black Rock–High Rock RMP.

Development of the alternatives considered in this plan, and assessment of their effects, is required under NEPA.

This plan also fulfills the requirements of FLPMA, which mandates that BLM develop comprehensive land use management plans and solicit and consider public input in developing management guidance for public lands, while complying with the laws and policies established by Congress and the executive branch of the Federal Government.

1.3.3 RMP AND EIS DEVELOPMENT PROCESS

In accordance with the requirements of NEPA and FLPMA, this plan is being developed through an open, collaborative public process and is based on the public input provided since the effort began in 2001. This development process is described in greater detail in Section

1.6 (Overview of the Planning Process), Chapter 5 and in Appendix A.

1.4 PLANNING ISSUES

Following passage of the NCA Act, BLM conducted an analysis of the planning area, and issues associated with its new status, to prepare for the current planning effort. This analysis, known as the Pre-Plan Analysis for the Resource Management Plan for the Black Rock Desert–High Rock Canyon Emigrant Trails National Conservation and Associated Wilderness Areas (or Pre-Plan), identified issues and management concerns for the Black Rock–High Rock planning area.

The Pre-Plan, as revised, identified four major issues to be addressed in the planning effort:

- How will the natural, cultural, and Wilderness resources of the NCA and Wilderness Areas be preserved?
- How will people's activities and uses of the area be managed?
- How will NCA management be integrated with other agency and community plans and needs?
- What facilities and infrastructure are needed to provide visitor services, information, and administration of the NCA?

In addition to these considerations, issues were identified by members of the public through the scoping process, a 60-day period during which members of the public can submit comments for BLM to consider in preparation of the RMP. Scoping begins early in the planning process, after publication of the Notice of Intent in the *Federal Register*. Both the Notice of Intent and scoping are required under NEPA.

A more detailed description of the scoping process is provided in Chapter 5 of this plan. Chapter 5 also summarizes the issues identified during the scoping process that are addressed in this plan.

1.5 PLANNING CRITERIA

BLM planning regulations (43 Code of Federal Regulations 1610) require preparation of planning criteria to guide development of all RMPs. Planning criteria are the constraints or ground rules that guide development of the plan and determine how the planning team approaches development of alternatives and, ultimately, selection of a preferred alternative. These criteria ensure that plans are tailored to the identified issues and that unnecessary data collection and analyses are avoided. Planning criteria are based on (1) the standards prescribed by applicable laws and regulations; (2) agency guidance; (3) the results of consultation and coordination with the public; other Federal, state, and local agencies and governmental entities; and Native American tribes; (4) analysis of information pertinent to the planning area; and (5) professional judgment.

The NCA Act, as amended; other existing laws, regulations, and BLM policy; and the principles of ecosystem-based management, multiple use, and sustained yield will guide land use decisions in the planning area.

The commitment to multiple use does not mean that all land will be open for all uses. Some uses may be excluded on some land to protect specific resource values or uses. Any such exclusion, however, will be based on laws or regulations or will be determined through a planning process subject to public involvement.

The plan will be developed with full public participation and will describe the appropriate uses and management of the NCA consistent with the provisions of the NCA Act.

The plan may incorporate appropriate decisions contained in any current management or activity plan for the area and information developed in previous studies of the lands within or adjacent to the NCA.

The following preliminary planning criteria were developed internally and were included in the Pre-Plan:

- The plan will be completed in compliance with FLPMA, the Wilderness Act, and all

other applicable laws. It will meet the requirements of Public Law 106-554 to protect the NCA's and the Wilderness Areas' natural resources and outstanding recreational opportunities.

- The NCA Planning Team will work cooperatively with, and may include members from, the State of Nevada; tribal governments; county and municipal governments; other Federal agencies; and other interested groups, agencies, and individuals. Public participation will be encouraged throughout the process.
- Parts of the areas covered by two resource advisory councils (RAC), the Northwest Great Basin-Sierra Front RAC and the Northeastern California RAC, include the NCA and the Wilderness Areas. A subgroup composed of members of these two RACs will be used to provide additional public input.
- The plan will establish the guidance on which BLM will rely in managing the NCA and the Wilderness Areas.
- The planning process will include an EIS that will comply with NEPA.
- The plan will emphasize the protection and enhancement of the NCA's and the Wilderness Areas' resource values, while providing the public with opportunities for compatible recreation activities.
- Parts of the NCA and Wilderness Areas have been part of the National Fee Demonstration Program. User fees have been charged for all commercial use in the area. Fees will continue to be charged under the authority of the demonstration program.
- The plan will recognize valid existing rights within the NCA and Wilderness Areas and will review the way in which valid existing rights are verified. The plan also will outline the process BLM will use to address applications or notices filed after the completion of the plan on existing claims or other land use authorizations.
- The concerns and interests of area residents, including the activities of grazing, hunting, trapping, fishing, mining, energy development, and access, will be recognized in the plan.
- Any lands located within the NCA's administrative boundary, or interests therein, that are acquired by BLM will be managed

in a way that is consistent with the plan, subject to any constraints associated with the acquisition. Lands will be acquired only from willing sellers who initiate the process with BLM.

- The plan will recognize the state's responsibility for managing wildlife, hunting, fishing, trapping, and water.
- The plan will address transportation and access and will identify where better access is warranted, where access should remain as is, and where decreased access is appropriate to protect NCA resources and manage visitation. This will include access to private lands within the boundaries of the NCA and the Wilderness Areas and state and county needs.
- The management of grazing is regulated by laws and regulations in addition to the NCA Act. The plan will be consistent with Rangeland Health Standards and Guidelines, as adopted by the California and Nevada BLM offices.
- The planning process will involve Native American tribal governments and will provide strategies for the protection of recognized traditional uses and cultural values.
- Decisions in the plan will strive to be compatible with the existing plans and policies of adjacent local, state, and Federal agencies, as long as the decisions are in conformance with congressional direction for management of the NCA and Wilderness Areas (examples are county general plans and Federal recovery plans).
- The plan will incorporate appropriate decisions from existing BLM plans, such as current management plans or activity plans (for grazing, wild horses and burros, Areas of Critical Environmental Concern, etc.) for the area. It will also use information developed, and management alternatives proposed, in previous studies of the lands within or adjacent to the NCA (such as the Draft Sonoma-Gerlach/Paradise-Denio Plan Amendment).
- Federal Geographic Data Committee standards and other applicable BLM standards will be followed.
- The planning process will provide an easily maintained, spatially based plan, relying heavily on maps, with minimal text. The

goal is to develop a plan with spatial data that is easily accessible and can be reused for subsequent NEPA analysis. When data changes, the plan should be updated automatically to reflect those changes. BLM also intends to provide public access to this data.

- The plan will be completed before December 20, 2003.

As additional issues were identified, the preliminary criteria were revised to reflect them. The revised planning criteria, shown below, were published in a newsletter distributed to everyone on the project mailing list. They also were published on the project Web site, www.BlackRockHighRock.org.

- Comply with the spirit and letter of the NCA Act, as amended.
- Conserve and protect the emigrant trails, other historic routes, and their settings.
- Comply with other laws and applicable regulations and BLM policies, including but not limited to, the Endangered Species Act, the Clean Water Act, the Rangeland Health Standards and Guidelines, and the Free-Roaming Wild Horse and Burro Act.
- Use decisions from previous land use plans, activity plans, etc., where appropriate.
- Be consistent with the plans, programs, and policies of other Federal agencies, state and local governments, and American Indian tribes, where possible.
- Provide for continued livestock grazing use where it was previously permitted at the time of the NCA Act's enactment, subject to all applicable laws, regulations, and executive orders.
- Provide for adequate access to privately owned land or interests.
- Maintain adequate public access for the reasonable use and enjoyment of the area.
- Allow OHVs only in designated open areas and along designated routes.
- Designate areas suitable for large-scale permitted events.
- Maintain state jurisdiction of fish and wildlife management (hunting, trapping, and fishing) in NCA and Wilderness.
- Allow use of gravel pits within the NCA for road maintenance.

- Allow no new mineral entry in Wilderness or the NCA.
- Do not create buffer zones on lands adjacent to the NCA or Wilderness Areas.
- Manage Wilderness Areas in a manner that is consistent with the Wilderness Act.
- Manage Wilderness Study Areas in accordance with the Interim Management Policy.
- Allow wildland fire protection, including prescribed burns within the NCA and Wilderness.
- Recognize valid existing rights.

1.6 OVERVIEW OF THE PLANNING PROCESS

There are three tiers in the BLM land use planning process.

- The **First Tier** is composed of laws, regulations, and policies that govern BLM's administration and management.
- The **Second Tier** is RMP-level planning, including the preparation, amendment, and maintenance of BLM land use plans.
- The **Third Tier** is activity-level planning and daily operations.

The Draft EIS and RMP is part of the second tier of BLM planning. An RMP prescribes general future resource and land use management for BLM-administered public lands in the planning area. In addition, the RMP is used to address and resolve planning issues associated with current management. Appropriate management direction is provided to prevent or address potential conflicts and to determine appropriate levels for resource use.

The land use planning process undertaken by BLM is mandated by FLPMA. Section 202 (a) of the FLPMA states, "The Secretary shall, with public involvement . . . develop, maintain, and, when appropriate, revise land use plans which provide by tracts or areas for the use of the public lands" (43 U.S. Code 1712).

The process is further described in BLM Handbook H-1601-1 (Land Use Planning

Handbook), which states that the “. . . BLM will use an ongoing planning process to ensure that land use plans and implementation decisions remain consistent with applicable laws, regulations, orders, and policies. This process will involve public participation, assessment, decisionmaking, implementation, plan monitoring, and evaluation, as well as adjustment through maintenance, amendment, and revision” (p. I-3). Generally, all of these activities are provided for through a basic nine-step process:

1. Issue identification
2. Development of planning criteria
3. Inventory and data evaluation
4. Analysis of the management situation
5. Formulation of alternatives
6. Estimation of effects of alternatives
7. Selection of the preferred alternative
8. Selection of the proposed plan
9. Monitoring and evaluation.

1.7 RELATIONSHIP TO STATUTES, REGULATIONS, AND POLICY

This plan is in accordance with all applicable Federal statutes and regulations listed in Appendix A. Moreover, this Draft RMP and EIS is in accordance with the NCA Act and Wilderness Act, which apply to 97 percent of the planning area. The NCA Act, which established the NCA, prompted the preparation of this Draft RMP and EIS because the Act required a plan to be prepared for the NCA and Wilderness areas in the planning area within three years of the Act becoming law.

Sections 1.1 (Background) and 1.3 (Purpose and Need) that appear earlier in this chapter describe the relationship between the NCA Act, the planning area and this planning effort.

Appendix A lists the major Federal statutes and regulations that apply to this planning document. It also contains the full text of both the NCA Act and the Wilderness Act for information purposes.

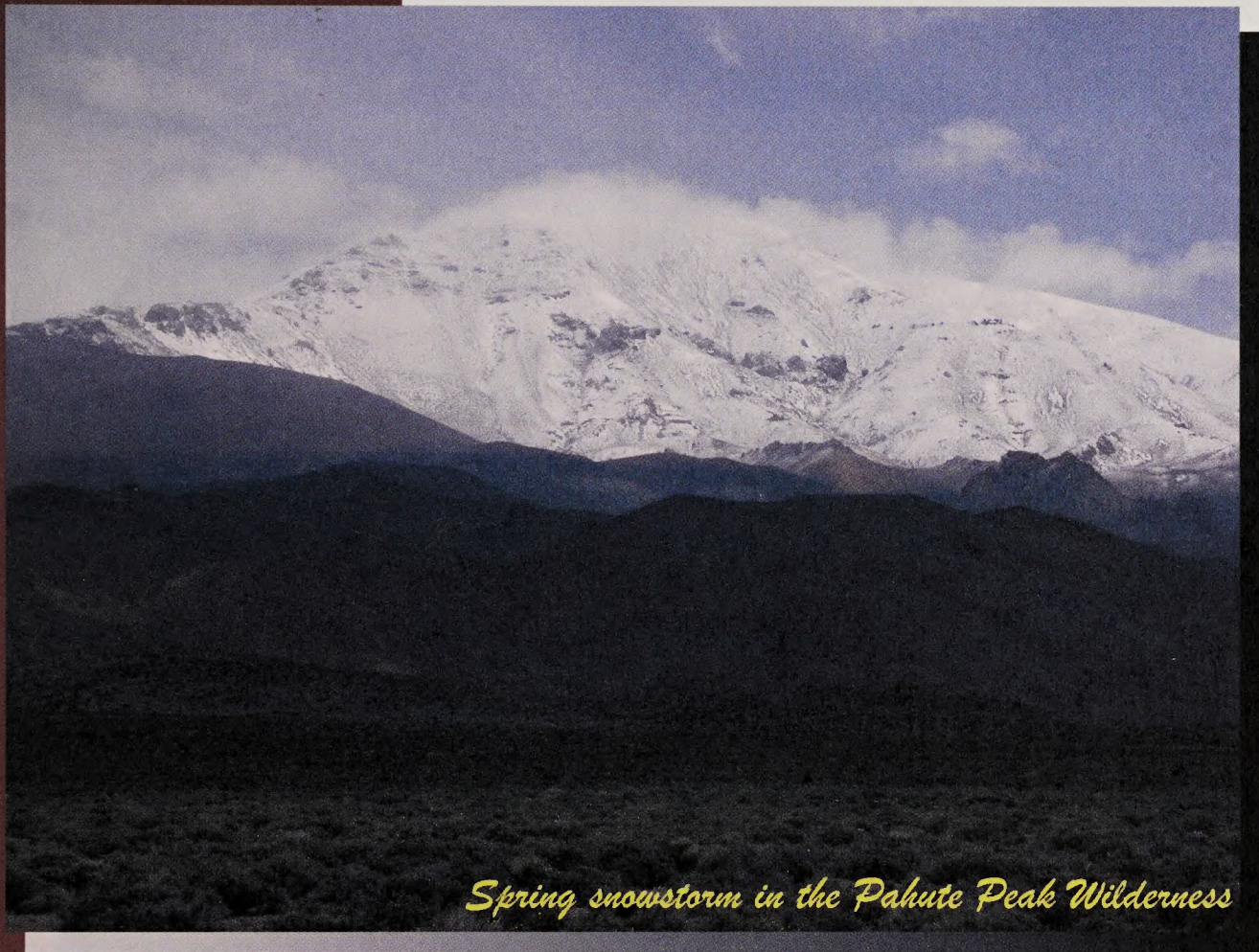
1.8 CONSISTENCY WITH OTHER PLANS

In accordance with the Federal Land Policy and Management Act, the BLM must coordinate inventory, planning, and management activities with other Federal departments and agencies, Indian tribes, and State and local governments to ensure consistency with those plans to the maximum extent practical and legal. These include county master plans for Humboldt, Pershing and Washoe Counties.

As part of the collaborative planning process used to develop this planning document, representatives from the Nevada Association of Counties, the Nevada state government including the Nevada Division of Wildlife, and the Summit Lake Paiute Tribe contributed considerable time and input into ensuring that the actions and impacts contained in this Draft are consistent with their respective plans and policies.

These representatives participated in meetings of the RAC Subgroup, development of the planning alternatives contained in Chapter 2, description of the affected environment contained in Chapter 3, and identification of the potential impacts contained in Chapter 4.

A more detailed description of the collaboration occurring during the development of this Draft is contained in Chapter 5 of this document.






Spring snowstorm in the Pahute Peak Wilderness

Chapter 2: Alternatives

Chapter 2: Alternatives

Chapter 2 describes four alternatives for the management of the Black Rock – High Rock planning area: the No Action Alternative and three action alternatives, Alternatives A, B, and C. The three action alternatives were developed to present a range of management options to guide decisionmaking for managing uses and activities within the planning area. These management decisions are intended to minimize adverse impacts on cultural and natural resources while providing for compatible resource use and development opportunities, consistent with current law, regulation, and policy.

Alternatives are developed to establish a framework for measuring the potential impacts on the planning area that might occur as a result of management decisions. The alternatives do not themselves constitute management decisions, but instead represent reasonable approaches to managing land and activities consistent with law, regulation and policy. Within the text of Chapter 2, the reader will encounter icons designed to assist in identifying statements and decisions that are included to comply with the Wilderness Act or other laws, regulations, and policy.  Decisions related to Wilderness Areas will appear with icons similar to those at the beginning and end of this sentence.   Text related to other laws, regulations, or policies will appear with the icons that surround this sentence.

 LAW

The Bureau of Land Management (BLM) has the discretion to select an alternative in its entirety or to combine aspects of the various alternatives presented in this draft to develop the Final EIS and RMP. The reader may also select and/or combine aspects of the various alternatives when providing comment on the plan. The National Environmental Policy Act (NEPA) requires the development and testing of several alternatives, including a No Action Alternative, to measure the potential impacts that a set of actions could have on the area. According to NEPA, BLM must consider these impacts in developing the RMP for the planning area, as described in Chapter 1.

The planning area consists of a complex geographic setting that sometimes requires different management activities to accommodate distinct geographic characteristics.

2.1 MANAGEMENT ZONING

In the alternatives, “zoning” organizes some management decisions by geographic areas. The planning area is divided into different zones that emphasize the values or experiences available in these areas. This approach establishes three zoning

categories for the planning area that characterize the area's physical and social settings and the types of activities that may be encountered or anticipated by the area's visitors. All public lands within the planning area are assigned to one of the three zones, as shown on Maps 2-23, 2-34, 2-43. The zones are Wilderness, Rustic, and Front Country. Appendix B characterizes the different types of visitor experiences that may be encountered in each of the zones.

The characteristics of each zone are similar for all of the action alternatives, but the location and extent of the various zones and the management actions within each zone differ among the action alternatives.

2.1.1 WILDERNESS ZONE

The Wilderness Zone encompasses Wilderness Areas and the Wilderness Study Area. This environment would offer the greatest opportunity for challenge, risk, and adventure. Self-sufficiency would be crucial. Contact with other people would be minimal.

In Alternative C, the Wilderness Zone would be managed by dividing the Wilderness Areas and the Wilderness Study Area into Wild Emphasis and Natural Emphasis Zones (see Glossary).

2.1.2 RUSTIC ZONE

This environment would offer possibilities for challenge, risk, and adventure, and would require self-sufficiency. Interaction with other people would be expected during certain seasons and times, but overall, there would be ample opportunities for solitary experiences.

2.1.3 FRONT COUNTRY ZONE

Exposure to challenge, risk and adventure would be relatively low in this zone compared with the other recreation zones. Interaction with other persons would be common during certain seasons and times, but solitude and quiet would also be available some of the time.

2.2 OVERVIEW OF THE ALTERNATIVES

The following descriptions provide an overview of the alternatives developed and the unique aspects of each.

2.2.1 NO ACTION ALTERNATIVE (Continuation of Present Management)

This alternative involves continuation of the management activities that already occur in the planning area. These activities are now governed by existing land use plans (i.e., the Paradise-Denio, Sonoma-Gerlach, Tulead-Homecamp, and Cowhead-Massacre Management Framework Plans) to the extent that these plans are consistent with the requirements of the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Act of 2000, as amended (the Act), and the Wilderness Act. Changes to existing management practices would be made for the sole purpose of compliance with these and other applicable laws and regulations. Natural resources and visitation would be managed in accordance with existing law, regulation, and policy.

2.2.2 ALTERNATIVE A (Emphasis on Natural Processes)

In Alternative A, management activities would emphasize providing visitors with the opportunity to experience, in a self-directed fashion, the physical setting that the emigrants and other early visitors to the area experienced in the mid-1800s. Visitors would experience the area as a cross section of the northwestern Great Basin, where natural processes have been allowed to continue with limitations on visitor activities to protect both visitors and resources. Resource management would minimize

intervention into natural processes to allow their continued progression through subtle forms of management and monitoring.

2.2.3 ALTERNATIVE B (PREFERRED ALTERNATIVE) (Emphasis on Response to Change)

This alternative would also emphasize providing visitors with opportunities to experience, in a self-directed fashion, the physical setting that the emigrants and other early visitors to the area experienced in the mid-1800s. Its management approach is distinguished from that of Alternative A in that it would more readily identify and accommodate changing conditions over time by allowing the application of management decisions responsive to these changing conditions. This alternative has more flexibility to respond to increasing visitation and risks to resources that could occur over time.

2.2.4 ALTERNATIVE C (Emphasis on Visitation and Interpretation)

This alternative emphasizes active visitor support. Resource management activities would allow necessary intervention in geographic areas, at varying levels, to enable visitors to experience both the natural and the historic context, while ensuring that resource protection was not compromised. Under this alternative, the Wilderness Zone would be further divided into Wild Emphasis and Natural Emphasis Zones.

2.3 CONSTRAINTS AND GOALS

2.3.1 BROAD DIRECTION

Specific limitations were considered during formulation of the alternatives. These are constraints that must be recognized in advance to ensure that plan decisions are lawful, realistic, and achievable.

The Act establishing the NCA and the Wilderness Areas covered by this plan, provides clear direction on some issues that must be addressed in this RMP, and eliminated from consideration other issues that are often addressed in other RMPs. For this reason, the range of alternatives considered in this RMP and the scope of management decisions within each alternative are somewhat narrower than those found in many RMPs.

BLM also must comply with other laws and regulations (e.g., the Federal Land Policy and Management Act, (FLPMA) and the Endangered Species Act) that were in place before establishment of the Act.

These legal and regulatory limitations govern BLM management activities and are documented in Appendix A.

2.3.2 GOALS

The planning process for this planning area included development of broad goals to ensure that the RMP would be consistent with the spirit and intent of legislative and other constraints and with the overall mission of the National Landscape Conservation System.

BLM worked with a subgroup created by two resource advisory councils (RAC) to identify these and other goals for the effort. This group, known as the RAC Subgroup, is composed of representatives of the two RACs, as well as citizen members with particular interests in the planning area, including representatives of tribal governments.

Based on input from the RAC Subgroup and other sources, such as a state NCA planning team, scoping comments, laws and regulations, and other BLM direction, a number of goals were developed to guide the planning process for this Draft EIS/RMP. These goals are listed below.

Goal 1: Provide current and future generations of Americans with unique opportunities to experience what the emigrants experienced.

- Preserve significant segments and the setting of the national historic emigrant trails within the planning area
- Preserve opportunities for solitude and primitive experiences within the view shed of historic emigrant trails.

Goal 2: Protect a large area of the Northern Great Basin in its current, predominantly natural state and prevent further decline of associated resources.

- Preserve archaeological, paleontological, geological, and geographical resources of the region
- Protect the remote and undeveloped character of the landscape
- Foster scientific inquiry and research to enhance resource management and public education (See Appendix M).

Goal 3: Support visitor services and resource management activities in a manner that protects the planning area's resources.

- Provide educational materials to the public to assist in the protection and interpretation of the area's resources
- Provide opportunities for visitor activities, including large-scale permitted activities, on the Black Rock Desert Playa as the primary destination for the majority of visitors to the NCA
- Maintain access for the reasonable use and enjoyment of the planning area.

Goal 4: Manage the planning area's plant and animal species in a way that will provide for their continued presence as part of an ecologically healthy system.

- Manage wild horses and burros to achieve identified appropriate management levels (AML)
- Recover populations and habitats of special status, previously eliminated, or declining plant and animal species
- Enhance native and desired naturalized wildlife.

Goal 5: Manage Wilderness Areas for visitors' use and enjoyment, in a manner that will provide opportunities for solitude and primitive experiences while leaving the areas unimpaired for future use and enjoyment as wilderness.

- Manage Wilderness Areas under a principle of nondegradation, by using the minimum tools, equipment, and structures necessary to successfully, safely, and economically accomplish effective wilderness management
- Allow for spontaneity of use and preserve as much freedom from regulation as possible
- Manage nonconforming but accepted uses in a way that prevents unnecessary degradation of the area's wilderness character.

Goal 6: Allow for social and economic benefits compatible with the protection of the area.

- Maintain permitted grazing activities in a manner compatible with the rangeland health of the area and consistent with standards and guidelines
- Manage and sustain multiple-use activities consistent with applicable legislation
- Provide reasonable access to privately owned land or interests (including valid and existing rights) on land within the boundaries of the planning area, consistent with historical multiple use.

Goal 7: Provide for the protection of cultural, religious, and agricultural values developed through historical practices in the planning area.

Goal 8: Cooperate and partner with local, state, tribal, and other collaborating agencies and private interests to support resource management activities and ensure consistency among plans and policies, where these are consistent with Federal laws and regulations.

2.3.3 RESOURCE-SPECIFIC CONSIDERATIONS

Resource-specific constraints are listed, by resource, in the Program Planning Criteria section of Appendix A. These resource-specific constraints are additive to the overarching constraints documented in the appendix. Thus, when a resource area has resource-specific constraints, the management decisions for that resource would be limited by those constraints *in addition to* the broader legal, regulatory, and policy limitations that apply to all BLM management decisionmaking.

2.4 MANAGEMENT GUIDANCE COMMON TO ALL ALTERNATIVES

This section describes management guidance and decisions that are applicable or common to all alternatives, including the No Action Alternative. Although an alternative might involve specific management decisions unique to it, there are also decisions that appear in *every* alternative. Rather than repeat these latter, identical decisions for each alternative description, this RMP presents these common-to-all decisions here, in one section. Management decisions that are common to all alternatives would be implemented under any alternative selected.

2.4.1 LAND HEALTH STANDARDS

Rangeland Health Standards developed by the Sierra Front–Northwest Great Basin Resource Advisory Council would continue to apply to lands grazed by livestock in the portions of the planning unit under the jurisdiction of the Winnemucca Field Office. These standards are contained in Appendix C.

Rangeland Health Standards developed by the Northeastern California Resource Advisory Council would continue to apply to lands grazed by livestock in the portions of the planning unit under the jurisdiction of the Surprise Field Office. These standards are contained in Appendix C.

2.4.2 TRANSPORTATION AND OHV ROUTES

2.4.2.1 Objective

To provide a transportation network for effective access, consistent with the Act, public safety, and resource objectives.





2.4.2.2 Transportation Management

Three access roads with railroad crossings to the playa would be added to the BLM road system as local roads, and the roads and crossings would be improved as appropriate to meet railroad crossing safety standards.

Together, BLM system roads and routes; non-BLM roads, including state and county roads; and designated off-highway vehicle (OHV) areas constitute the transportation network for the planning area. This transportation network would be managed in accordance with a transportation plan consistent with the intent of the NCA legislation, to provide reasonable, safe access to visitors, local residents, and property owners. (See Appendix D for road classifications and maintenance levels.)

BLM would pursue cooperative agreements with Humboldt, Pershing, and Washoe Counties regarding maintenance and to enable BLM to upgrade the Pershing County portion of Soldier Meadows Road to the same standard as the Humboldt County portion of the road.

2.4.2.3 OHV Designations

  Wilderness Areas would be closed to OHV use.  

2.4.3 CULTURAL RESOURCES, INCLUDING EMIGRANT TRAILS

2.4.3.1 Objectives

Objective 1: To protect the setting and physical traces of emigrant trails for the benefit of current and future generations.

Objective 2: To protect and interpret all other cultural resources for the benefit of current and future generations.

2.4.3.2 Cultural Resource Management, Including Emigrant Trails

BLM would establish criteria for evaluating emigrant trail traces to provide the basis for future monitoring, restrictions, and stabilization activities. It would inventory the trail in coordination with Oregon-California Trails Association guidelines (Appendix E). The emigrant trail viewsheds would be managed to retain the setting experienced by the emigrants.

Class A and B trail segments would be closed to all mechanized vehicles (Map 2-1). (Appendix E contains the definitions of the trail classes.) Parallel routes outside the immediate viewshed might be created to avoid impacts on trails. Some seasonal closures to vehicle traffic (including replica wagons used during reenactments) would occur on Class C trail segments.

A comprehensive overview and research design will be developed for the planning area. This is necessary to guide future inventories, eligibility evaluations, research needs, and other management decisions.

Additional National Historic Preservation Act Sec. 110 Class III cultural resource inventories of large areas are needed, based on the cultural resource record for the planning area. Without additional inventories and data collection, new sites would not be found and the research potential, educational benefits, and recreational possibilities of the area would not be realized.

Cultural resource inventories would be prioritized. The cultural resource inventories would focus first on the emigrant trail corridor, second on the Wilderness Areas, and finally on the remainder of the planning area, unless other needs are identified.

Outstanding eligible resources identified and recorded as a result of these inventories could be nominated to the National Register of Historic Places.

2.4.4 NATIVE AMERICAN VALUES

2.4.4.1 Objective

To protect Properties of Cultural and Religious Importance for the use and benefit of current and future generations.

2.4.4.2 Native American Values Management

See individual alternatives for management actions.

2.4.5 PALEONTOLOGICAL RESOURCES

2.4.5.1 Objective

To manage paleontological resources in ways that prioritize research needs, facilitate educational and recreational needs, and protect important sites.

2.4.5.2 Paleontological Management

BLM paleontological inventories would focus on:

- the West arm of the Black Rock Desert
- Soldier Meadows
- the Black Rock Desert Wilderness.

Other priorities for paleontological inventorying could be developed in the future based on new information.

2.4.6 WILDERNESS

2.4.6.1 Objectives

Objective 1: To maintain or enhance the natural untrammelled character of the Wilderness Areas.

Objective 2: To provide outstanding opportunities for visitors to experience solitude and to participate in primitive and unconfined recreation, consistent with the preservation of the area's wilderness character.

Objectives and actions that support wilderness can also be found throughout the document in other resource sections. All sections containing information relating to wilderness are bracketed with icons

2.4.6.2 Wilderness Management

WP A Wilderness Management Plan (WMP) would be prepared following the completion of the RMP. The WMP will contain specific objectives, management actions, and monitoring procedures for wilderness resources in the designated Wilderness Areas. The WMP will establish the type and level of environmental assessment necessary, including "minimum requirement and minimum tool analyses" for all site-specific management actions.

Wilderness boundaries would be signed as indicated in the various alternatives. **LAW** All "ways" would be closed to motorized and mechanized vehicle use within the Wilderness Areas. **LAW** This does not include the 33 vehicle access routes, described in Chapter 3, section 3.4, that provide vehicle access to the interior of the Wilderness Areas but are not actually within the wilderness boundaries. Closed ways would be managed to maintain natural conditions and would require the occasional installation of—

- Barriers at the point where ways enter Wilderness Areas, to discourage continued motorized trespass

- Gates on ways that could occasionally be used for authorized purposes. **LAW**

2.4.7 SPECIAL DESIGNATIONS

2.4.7.1 Objectives

Objective 1: To consider for designation as an Area of Critical Environmental Concern (ACEC) any area with important natural or cultural resources, systems, or processes, and any area that requires special management actions to retain its values.

Objective 2: To protect free-flowing stream segments with outstandingly remarkable values.

2.4.7.2 Areas of Critical Environmental Concern

If lands are acquired adjacent to an existing ACEC and the acquired lands contain relevant and important resources important to the ACEC, the acquired lands would be incorporated into the ACEC and would be managed accordingly.

If the Lahontan Cutthroat Trout Wilderness Study Area were released for purposes other than wilderness, the area would be designated as an ACEC with the objective of protecting the habitat of the trout.

2.4.7.3 Wild and Scenic Rivers

See individual alternatives.

2.4.8 VEGETATION

2.4.8.1 Objectives



Objective 1: To retain sagebrush communities over at least 75 percent of the potential sagebrush habitat in the planning area with sagebrush cover sufficient to support sagebrush-dependent wildlife species, and to maintain more than 90 percent of sagebrush communities with desirable forb and grass

composition for wildlife needs over the life of the plan.

Objective 2: To retain non-sagebrush-dominated shrubland and woodland communities (e.g., salt desert shrub, mountain shrub, and Utah juniper) over greater than 75 percent of potential sites within the planning area with plant species composition that corresponds primarily to late seral ecological status over the life of the plan.

Objective 3: To achieve native herbaceous vegetation composition consistent with late seral ecological status within the planning area, and nonvascular plant species cover as appropriate to ecological site potential over the life of the plan.

Objective 4: To retain all existing aspen clones, to expand the area occupied by existing aspen stands where possible, and to achieve mixed age classes in stands over the life of the plan.

Objective 5:  To consider natural ecological processes as the dominant factor in determining the composition and distribution of plant communities in the Wilderness Zone. 

Objective 6: To protect the natural condition and biodiversity of the planning area by preventing or limiting the spread of noxious weeds [as identified in the Nevada State Noxious Weed List (Nevada Revised Statute 555.0100)] that displace native vegetation; to use Integrated Weed Management principles to detect and eradicate all existing infestations; to eliminate new infestations before they begin to spread; and to prevent or limit the spread of established weeds into areas containing little or no infestation.

Objective 7: To prevent the total acres occupied by invasive annual species (cheatgrass and other similar plants) within the planning area from increasing over the life of the plan.

Objective 8: To maintain or achieve, within 15 years, Properly Functioning Condition status for 90 percent of wetland vegetation community sites within the planning area that currently are in Properly Functioning Condition or Functional at Risk status, consistent with Land Health Standards.

2.4.8.2 Vegetation Management

Rehabilitation and restoration efforts would be conducted in areas that have been burned by wildland fires and subject to invasion by annual plants. Seed mixes would be developed to achieve a high



probability of successful establishment. Native shrub and herbaceous species would be emphasized, but nonnative species could be used in restoration or rehabilitation to increase seeding success.

Rangeland vegetation communities at risk of stand conversion from native species to introduced annuals because of wildfire might be protected through the establishment of green stripping using appropriate seed mixes and project layout consistent with the objective of maintaining a natural landscape.

Seed collection would be allowed by permit within the planning area to support restoration of native plant communities.

2.4.8.2.1 Noxious Weeds

Control of noxious weeds would be conducted using the best combination of treatment practices developed specifically for the target species and infested site, consistent with Nevada Revised Statute 555.010. Such treatments would include Best Management Practices consistent with Integrated Weed Management principles. Practices would include prevention of disturbing activities to maintain competitive vegetation cover and reduce the distribution and introduction of noxious weed seed; use of cultural and mechanical methods to physically remove noxious weeds; performance of management actions that limit the spread of noxious weeds by natural means; and application of herbicides and possibly biological controls.

 Weed infestations in the Wilderness Zone would be controlled by methods consistent with minimum tool requirements and Integrated Weed Management principles. Noxious weeds in the Wilderness Zone would be controlled using hand tools and, where manual treatments alone would not affect the weed populations, with chemical and biological methods. 

2.4.9 LIVESTOCK GRAZING

2.4.9.1 Objectives

Objective 1: To promote healthy sustainable rangeland ecosystems and maintain or restore public rangelands to Properly Functioning Condition.

Objective 2: To provide livestock forage on a sustainable basis for the foreseeable future, consistent with other resource objectives and with public land use allocations.

2.4.9.2 Grazing Management

The current livestock grazing use authorizations (Table 3-9) would be maintained until evaluations identify the need for adjustments in livestock grazing practices to meet Rangeland Health Standards or other objectives. Changes in livestock management would conform to regulations and land use plans. Monitoring, field observations, ecological site inventories, or other BLM acceptable data must support management changes.

The class of livestock in allotments would not be changed by this plan. Domestic sheep trailing would be allowed in portions of the Buffalo Hills, Blue Wing–Seven Troughs, Jackson Mountain, and Majuba Allotments where it has been previously licensed.

Areas of the Black Rock Desert shown on Map 3-5 would remain unallocated for livestock grazing, except as noted in Alternative B. The ungrazed portion of the Massacre Mountain Allotment associated with High Rock Canyon and the Little High Rock portion of the Bare Allotment would not be grazed on a regular basis. Grazing in these areas could occur under an approved grazing prescription developed specifically to accomplish the objectives of the plan.

The Mahogany Creek Exclosure portion of the Soldier Meadows Allotment would continue to be excluded from grazing.

Massacre Ranch would be included in the Massacre Mountain Allotment and would be available for livestock grazing as part of a plan for the Massacre Mountain Allotment that includes specific objectives and actions for the meadows and grazing management facilities at the ranch.

Existing authorized structural rangeland projects would be maintained where beneficial to resource values. All spring developments would be modified where necessary to maintain, improve, or restore the biotic integrity of the spring system, in accordance with BLM Technical Reference 1737-17. These spring developments would also be modified to provide water for wildlife at ground level adjacent to the spring source. Projects no longer needed to meet

livestock or other resource management objectives could be removed and the sites restored.

Authorizations of grazing use including multiple use decisions and activity plans would incorporate specific grazing management prescriptions (covering, but not limited to, timing, duration, intensity, and frequency of livestock use) that an evaluation showed would provide the best opportunity to meet the objectives of the plan and the applicable Rangeland Health Standards.

Adjustments in livestock and/or wild horse and burro forage would be implemented in an equitable manner on the basis of monitoring data or site-specific resource evaluations. If monitoring data indicates that impacts on resources are occurring as a result of livestock, or wild horse or burro use, appropriate adjustments will be made to the specific class of use. In the absence of monitoring data, adjustments in available forage would be proportional to applicable livestock active animal unit months (AUM) and wild horse and burro AMLs.

2.4.10 WILD HORSES AND BURROS

2.4.10.1 Objectives

Objective 1: To maintain and manage sustainable populations of wild horses in seven herd management areas (HMA) and of wild horses and burros in two HMAs, consistent with the objectives of the NCA and Wilderness Zone, at AMLs that ensure a thriving ecological balance among wild horse and burro populations, wildlife, livestock, vegetation resources, and other resource values.

Objective 2: To maintain free roaming behavior of wild horses and burros.

2.4.10.2 Wild Horse and Burro Management

The HMAs referenced in Table 3-10 and shown on Map 3-6 are rangelands used by either wild horses or a combination of wild horses and burros. These HMAs were established following passage of the Wild Horse and Burro Act of 1971, on the basis of

herd areas. The HMAs would be retained and the wild horse or burro populations would be managed consistent with plan objectives.

The Antelope Range Herd Area, as shown on Map 3-6, would not be designated as an HMA because it does not meet HMA criteria.

Contiguous HMAs with documented reproductive interaction would be managed as complexes to enable better management of genetic traits for the population and increased coordination of monitoring and gathering.

No adjustments in HMA boundaries would occur as a consequence of this plan. However, if subsequent planning adjusted boundaries of HMAs partially contained in the planning area, those adjustments would also apply to this plan.

Horses and burros would be gathered from the HMAs to achieve the AML. Aircraft would continue to be used for the management and, when necessary, removal of wild horses and burros. Gather activities would be scheduled to avoid high visitor use periods whenever possible. The initial and estimated herd sizes that could be managed while still preserving a thriving natural ecological balance and managing multiple use relationships of wild horses and burros for each HMA are shown in Table 3-10.

Adjustments in livestock and/or wild horse and burro forage would be implemented in an equitable manner on the basis of monitoring data or site-specific resource evaluations. If monitoring data indicates that impacts on resources are occurring as a result of livestock, or wild horses or burros, appropriate adjustments will be made to the specific class of use. In the absence of monitoring data indicating impacts by a specific class of use, adjustments in available forage would be proportional to the applicable livestock AUMs and the wild horse and burro AMLs.

WP Gathers in Wilderness would continue to be conducted by herding the animals by helicopter or on horseback to temporary corrals, generally located outside of Wilderness. No landing of aircraft would occur in Wilderness Areas except for emergency purposes, and no motorized vehicles would be used in the Wilderness Area in association with the gather operations unless such use was consistent with the minimum tool requirement for management of Wilderness. **W**

2.4.11 WILDLAND FIRE

2.4.11.1 Objectives

Objective 1: To provide an appropriate management response (AMR) to all wildland fires, with emphasis on firefighter and public safety, considering the resource values to be protected, consistent with overall management objectives and fire suppression costs.

Objective 2: To recognize fire as a natural process in vegetation change and to use fire to protect, maintain, and enhance resources in plant communities within the planning area where consistent with objectives.

2.4.11.2 Wildland Fire Management

Rehabilitation and restoration efforts would be conducted in areas burned by wildland fires and subject to invasion by annual plants (see Vegetation section, 2.5.6).

2.4.12 FISH AND WILDLIFE

2.4.12.1 Fish and Wildlife

2.4.12.1.1 Objectives

Objective 1: To provide habitat within the planning area to support a diverse range of game and nongame wildlife species and to give visitors high-quality opportunities to hunt, fish, trap, or view wildlife.

Objective 2: To maintain, restore, or enhance riparian areas and wetlands within the planning area, so that they provide diverse and healthy habitat conditions for riparian and wetland obligate species and other wildlife species.

Objective 3: To manage upland habitats in woodland and rangeland vegetation types to provide the forage, water, cover, structure, and security necessary for sustainable populations of shrubland and woodland obligate and other wildlife species.

Objective 4: To provide high-quality habitats for sagebrush-dependent species, including sage-grouse, in the sagebrush steppe portions of the planning area.

All existing lek, breeding, brood rearing, and winter sage-grouse habitats would be conserved during the life of the plan.

Objective 5: To provide habitat for migratory birds, including forage, water, cover, structure, and security, to support healthy populations of resident and migrant species.

Objective 6: To restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fish and other aquatic organisms in spring systems and streams throughout the planning area.

2.4.12.1.2 Fish and Wildlife Management

This plan would not diminish the jurisdiction of the State of Nevada with respect to fish and wildlife management, including regulation of hunting, trapping, and fishing on public land in the planning area.

BLM would work cooperatively with tribal governments and the Fish and Wildlife Service (FWS), recognizing their roles in the management of habitats and populations of fish and wildlife.

WP Trap and transplant activities associated with native wildlife species in Wilderness would be allowed if they were necessary to meet the minimum requirements for the administration of the Wilderness Areas. Use of gas- or electric-powered equipment and motorized vehicles, including aircraft, would be authorized in support of trap and transplant, or project development, activities when they were determined to be the minimum tools for implementing the project.

A WMP would be prepared following completion of this RMP. The WMP will contain specific objectives, management actions, and monitoring procedures for wildlife resources in the designated Wilderness Areas. The WMP will establish the type and level of environmental assessment necessary including minimum requirement and minimum tool analyses for all site-specific wildlife management actions. **W**

2.4.12.2 Fish and Wildlife Habitat

2.4.12.2.1 Objectives

Objective 1: To maintain High Rock Canyon, the South Jackson Range, and the Lahontan Cutthroat Trout Area as Watchable Wildlife Sites.

Objective 2: To implement management actions for all uses and programs that sustain or improve sage-grouse winter, breeding, nesting, and brooding habitats. Activities that have a high risk of disturbing breeding or brooding sage-grouse would not be allowed within suitable habitats.

2.4.12.2.2 Fish and Wildlife Habitat Management

Use of aircraft to survey and monitor wildlife populations would be continued, but flights would be scheduled to avoid high-visitor-use periods.

LAW Any landing of aircraft or dropping of supplies from aircraft would be consistent with a minimum requirement and minimum tool analysis. **LAW**

Use of aircraft or mechanized equipment would be authorized for performance of emergency wildlife-related actions and for distribution of mineral or medicated blocks for wildlife. **WP** When these activities occur in Wilderness, they must be consistent with the minimum requirement and minimum tool analyses (Appendix F). **W**

Habitat rehabilitation and restoration projects and activities would be conducted in the planning area. **WP** When they are proposed for Wilderness, these activities must be consistent with the minimum requirement and minimum tool analyses (Appendix F). **W** Examples of such activities and projects include changes in authorized uses; seeding following fires to enhance recovery of wildlife habitats and prevent establishment and dominance of invasive, exotic plant species; and construction of riparian protective fencing to recover, establish, or enhance riparian systems.

WP Naturalized game birds would continue to be priority species for hunters in the Wilderness Areas, but no additional wildlife water developments or other habitat manipulations would be undertaken to manage naturalized game bird populations in Wilderness. **W**

2.4.13 SPECIAL STATUS SPECIES

2.4.13.1 Objective

To manage habitats and populations of special status plant taxa and animal species to meet the standards for “secure” ranking within 10 years. Any new listing would be managed under plan maintenance.

2.4.13.2 Special Status Species Management

LAW Actions and stipulations necessary to protect special status species and their habitats would be made part of land use authorizations. Specific actions intended to protect special status species are included in the Fish and Wildlife (section, 2.4.10), Vegetation (section, 2.5.6), and other sections of this chapter. The Endangered Species Act and the BLM Policy on Management of Special Status Species would guide development of actions and stipulations. For information on special status species conditions, refer to the Vegetation and the Fish and Wildlife sections in Chapter 3, section 3.6.3). **LAW**

2.4.14 VISUAL RESOURCES

2.4.14.1 Objectives

Objective 1: To provide a primitive and natural visual setting for visitors.

Objective 2: To protect the visual integrity of the emigrant trail corridor.

2.4.14.2 Visual Resource Management

The Lahontan Cutthroat Trout Wilderness Study Area would be managed as Visual Resource Management (VRM) Class I. If Congress releases the Wilderness Study Area from Wilderness consideration, the lands would be designated as VRM Class II.

Wilderness Areas would be designated as VRM Class I. VRM classification descriptions are provided in Appendix G.

2.4.15 WATER RESOURCES

2.4.15.1 Objectives

Objective 1: To manage the quality of water resources in the planning area in a way that achieves the chemical, physical, and biological integrity that each resource is capable of producing, consistent with Nevada Revised Statute chapter 445A.

Objective 2: To manage the use of water resources within the planning area to enhance the natural and cultural resource values that the NCA was created to protect, consistent with Nevada Revised Statute chapters 533–534.

2.4.15.2 Water Resource Management

2.4.15.2.1 Black Rock Range

The water quality of the Mahogany Creek, Summer Camp Creek, Pole Creek, Battle Creek, Colman Creek, and Snow Creek watersheds would be managed to meet the life history requirements of populations of Lahontan cutthroat trout (explained in Chapter 3, section 3.10.2).

The water quality of the Bartlett Creek and Paiute Creek watersheds would be managed to meet the life history requirements of the Lahontan cutthroat trout as potential recovery streams.

2.4.15.2.2 Calico Range

The water quality of the Donnelly Creek watershed would be managed to meet the life history requirements of the Lahontan cutthroat trout as a potential recovery stream.

2.4.15.2.3 Jackson Mountain Range

The water quality of the Jackson Creek watershed would be managed to meet the life history requirements of populations of the Lahontan Cutthroat Trout.

The water quality of the Happy Creek and Mary Sloan Creek watersheds would be managed to meet the life history requirements of the Lahontan Cutthroat Trout as potential recovery streams.

2.4.15.2.4 Soldier Meadows

The water quality of those areas within the Soldier Meadows Allotment that provide habitat for the desert dace (see Map 2-2) would be managed to meet the life history requirements of the desert dace and the springsnails (Soldier Meadows Activity Plan).

2.4.15.2.5 Remainder of the Planning Area (Other Watersheds)

With the exception of warm water springs, all water resources would be managed to achieve the State of Nevada's Class A standards. Where Class A standards cannot be achieved because of naturally occurring limitations, site-specific water quality objectives would be developed, consistent with the intent of the Act.

The water quality of geothermal springs in the planning area would be managed to maintain existing populations of native fish or other aquatic organisms. Activities and land use practices that would impact water quality to a degree that would cause harm to terrestrial or avian animals would not be allowed.

Permitted uses would be subject to Best Management Practice prescriptions, based on monitoring and evaluation, that would provide the best opportunity to meet the objectives of the plan and Land Health Standards related to water resources.

Best Management Practices would be regularly evaluated and updated to ensure that the most effective practices are being applied.

2.4.15.3 Water Rights

BLM would continue to file for water rights through the State of Nevada to support uses consistent with this plan that help to achieve resource management objectives and maintain healthy and functioning riparian and upland systems.

2.4.16 LANDS AND REALTY

2.4.16.1 Objectives



Objective 1: To provide access to private lands, consistent with applicable laws, while minimizing environmental impacts.

Objective 2: To establish utility corridors and grant rights-of-way when they are consistent with the management objectives of the NCA.

Objective 3: When practical and appropriate, to pursue opportunities within the planning area to acquire private parcels or interests from willing sellers who initiate the process.

Objective 4: To prevent development and establishment of new private interests on public lands that are inconsistent with the resource goals of the planning area.

2.4.16.2 Lands and Realty Management

 Access to private lands entirely surrounded by Wilderness (also known as inholdings) would be allowed for the reasonable purposes for which the property is held or used. Access would be limited to the routes and modes of travel that existed at the time of designation. When vehicle access is provided, it would be authorized through issuance of renewable land use permits. Until issuance of a land use permit, landowners would only be allowed to use nonmotorized and nonmechanical means of accessing their property. 

Access to private lands outside of Wilderness would be authorized by issuing rights-of-way that provided for the reasonable use and enjoyment of private lands by their owners while minimizing impacts on resources. (For access to Wilderness inholdings, see Constraints, Appendix A.)

No new utility corridors would be established in Wilderness Areas, the Lahontan Cutthroat Trout Area, High Rock Canyon, and the Black Rock Desert Playa, and along the emigrant trail corridor.

Proposed utility rights-of-way could be granted, except as specifically excluded, where in conformance with the objectives and decisions of this plan, law, regulation, policy, and the intent of the legislation. Rights-of-way would be granted, outside of Wilderness, in support of valid existing rights.

As opportunities arise, BLM would continue to consider acquisition of private lands within the planning area or property interests that would provide public benefits. Land acquisitions would be considered through exchange, where no disposal of public land would occur within the NCA or Wilderness; through purchase from willing landowners or their agents, or through donation.

BLM would continue to acquire private lands from willing sellers through previously initiated land exchanges. These initiated exchanges are as follows:

- Near Rye Patch Reservoir along the southeastern corridor of the NCA in Township 33N, Range 30E and Township 33N, Range 31E
- Near High Rock Lake in Township 38N, Range 24E; Township 39N, Range 24E; and Township 39N, Range 23E.

Recreation and public purposes leases and Section 302 leases would not be issued within the planning area.

2.4.17 MINERAL RESOURCES

2.4.17.1 Objective

To recognize valid, existing rights and allow development and establishment of property interests in the planning area, consistent with the resource goals of this plan.

2.4.17.2 Locatable Minerals Management

LAW Subject to valid existing rights (shown on Map 3-15), Federal lands within the NCA and designated Wilderness Areas are withdrawn from location, entry, and patent under the 1872 General Mining Law. Valid existing rights for existing mining claims would be determined. Claims found to be valid would be allowed to continue operations and would be managed under applicable laws and regulations. **LAW**

2.4.17.3 Leasable Minerals Management

LAW Federal lands within the NCA and designated Wilderness Areas are withdrawn from the authority of the 1970 Geothermal Steam Act and the Mineral Leasing Act of 1920. **LAW**

The South Playa Area is closed to sodium/potassium leasing and development. Existing geothermal leases in the South Playa Area would be administered under the terms of the lease and applicable laws and regulations. The existing geothermal leases would be extended for 5 years if drilling, diligent efforts, production of byproducts, or unit commitment occurs by the sixth year of the primary lease term (10 years) and might be extended for two successive 5-year terms. If commercial geothermal resources are being produced during the primary lease term, the lease would continue as an additional lease term for up to 40 years, contingent upon continued production. An additional lease term might be granted for up to 40 years if the leaseholder had a well capable of producing geothermal resources before the end of the primary or extended lease term. If at the end of the additional lease term the land is not needed for other purposes and production is ongoing, the leaseholder would have a preferential right to renew the lease for an additional 40-year period under the terms and conditions applied.

2.4.17.4 Salable Minerals Management

LAW Within the NCA, the Secretary could permit the use of gravel pits for the maintenance of roads under the terms of the Mineral Materials Act of 1947, to the extent consistent with the Act, as amended, and subject to such regulations, policies, and practices as the Secretary considers necessary. Subject to valid existing rights, Wilderness Areas are withdrawn from the Mineral Materials Act. **LAW**

2.4.18 SOILS

No decisions addressing soils are directly contained in this plan. Soils would continue to be managed in accordance with existing laws, regulations, and policies, as documented in Appendix A.

2.4.19 RECREATION

2.4.19.1 Objectives

Objective 1: To provide opportunities for a diverse range of recreation experiences and permitted events, consistent with the intent of the Act.

Objective 2: To protect the physical and visual integrity of the Applegate-Lassen National Historic Trail from impacts associated with human uses, including organized events.

Objective 3: To maintain access across the playa, while retaining a sense of isolation.

Objective 4: To provide suitable alternatives to traditional camping areas to reduce resource conflicts, rehabilitate sensitive areas, and reduce visitor conflict.

2.4.19.2 Recreation Management

The entire planning area would be administered as a Special Recreation Management Area.

Where resource impacts occur as a result of recreation activities, specific restrictions on recreational activities could be applied. Camping would be restricted to areas more than 300 feet from springs, consistent with Nevada Revised Statute 503.660, unless otherwise designated.

Open fires would be allowed in accordance with local fire restrictions. Fires would use only dead and down wood, or firewood brought in from outside of the planning area. Fires on the playa would be allowed only with the use of a surface-protecting device, such as an elevated platform, open grill, fire blanket, or fire pan.

BLM would work cooperatively with the Nevada Division of Wildlife (NDOW), recognizing its jurisdiction in the management of hunting, trapping, and fishing. All hunting, trapping, and fishing activities within the planning area would be managed by NDOW in accordance with state regulations.

2.4.19.3 Special Recreation Permits

All recreation permittees would be required to adhere to Leave-No-Trace[©] principles (See

Glossary). Permits would emphasize the Leave-No-Trace[©] principles.

2.4.20 PUBLIC OUTREACH AND VISITOR SERVICES

2.4.20.1 Objectives

Objective 1: To provide the public with a better understanding and appreciation of the area's natural, cultural, and biological resources and its history and uses.

Objective 2: To expand public awareness of the ethics of responsible land and resource use.

Objective 3: To build and maintain positive relationships with communities.

Objective 4: To encourage development of visitor services and facilities on private lands, or on public and tribal lands outside of the planning area, to enhance visitor experiences, foster economic development, and protect area resources.

Objective 5: To expand public awareness of the dangers and hazards in the area while stressing the need for self-reliance and personal safety.

Objective 6: To develop an outreach and interpretive plan for the NCA and Wilderness Areas.

2.4.20.2 Public Outreach and Visitor Services Management

BLM would expand public awareness by implementing and supporting programs that would increase public appreciation for the values of the planning area. In addition, volunteers would be recruited to develop and implement interpretive and environmental programs.

BLM's outreach and interpretive plan would identify the types of information to be provided to visitors; locations and techniques for distribution; and a monitoring process for evaluation and revision of materials and distribution techniques. The plan would also establish guidelines for the location and construction of potential brochure stations, signs, or small kiosks. The distribution, size, placement, and use of facilities would vary among alternatives, but would always be designed to cause the smallest

possible impact on the ground inside the planning area.

Potential types of information and formats could include:

- Maps
- Brochures
- Internet sites
- Partnership programs
- Resource and cultural site stewardship
- Day and evening programs
- Interpretive displays
- Teacher reference materials
- Field trip programs
- Outreach strategies for local communities
- Signing
- Kiosks
- Volunteer programs
- Museum displays
- Visitor center programs and displays
- Materials supporting heritage tourism
- Low power radio transmission systems.

Information would be made available to visitors outside of the NCA to raise awareness of the values, uses, and hazards of the area. Informational materials would be available at offsite locations, including gateway communities, and online at BLM and private Web sites or other outlets. Informational materials would emphasize visitor risks and safety; respect for private property, natural resources, wilderness values, and cultural and historic trail resources of the area; and regulatory information related to BLM and other agencies. Maps and narrative information would be provided to potential visitors.

BLM would foster the development of resource stewardship programs (See Appendix M). It would also encourage scientific research into resources and uses that occur within the NCA and Wilderness.

2.5 NO ACTION ALTERNATIVE

(Continuation of Present Management)

The No Action Alternative is defined as the continuation of present management decisions. These decisions consist of the new decisions established in the Act, as amended; those decisions contained in the land use plans in effect at the time of the NCA designation that were not affected by the Act; and those decisions that were modified by the Act.

For purposes of clarity, the presentation of the No Action Alternative in the plan, is a simplification of existing management decisions. Because of the complexity of combining actions from the four existing land use plans, the decisions presented in this text are summaries. In many program areas, decisions vary among the four plans. In addition, many decisions contained in the existing plans do not apply to lands within the NCA planning area. Decisions from the four existing land use plans that do apply to the NCA planning area are listed in Appendix H. Ongoing management of the planning area is based on these decisions, guidance such as Rangeland Health Standards, and the requirements of the Act.

In addition to those elements listed in Section 2.5 (Management Guidance Common to All Alternatives), the No Action Alternative contains management actions that either appear only in the No Action Alternative or are present in one or more (but not all) of the other action alternatives.

2.5.1 LAND HEALTH STANDARDS

No additional management is identified for this alternative.

2.5.2 TRANSPORTATION AND OHV ROUTES

2.5.2.1 Functional Classes

BLM system roads would be assigned to one of four functional categories and managed accordingly. These roads (shown on Map 2-3) also would be assigned appropriate maintenance levels, consistent with their functional classification (described in Appendix D).

Table 2-1. BLM System Roads and Other Routes (No Action Alternative)

Road Number	Road Name	Maintenance Level
Collector Roads		
2048	High Road	4
2054	High Rock Lake	2
Resource Roads		
2049	Sulphur Jackson	2
2051	Pahute Meadow	2
2052	Bartlett Butte	2
2053	Cane Spring	2
2055	Rock Spring	2
2070	Pole Creek West	2
2077	Cow Creek-	3
2086	Rabbithole	2
2088	Donnelly	2
2094	Playa Access	3
37003	Little Basin	2
37005	Frank's	2
37006	Wall Canyon	2
37012	Weimer	2
37015	Sand Spring	2
37017	Stevens Camp	3
37022	Woodruff	2
37024	Docking Corral	2
37032	Grassy	2
37035	Wildcat	2
	Cholona Playa	3
	Access	3
	Trego Playa	3
	Access	
	Garrett Playa	
	Access	
Trail		
37002	High Rock	
Routes	All other vehicle routes, including wilderness access routes	No maintenance

See Map 2-3 for locations of roads and routes.

2.5.2.2 OHV Designations

WP Wilderness Areas would be closed to OHV use. **W** Use in High Rock Canyon and the Lahontan Cutthroat Trout Wilderness Study Area would be limited to existing routes. The remainder of the planning area would be open (see Maps 2-4a,b,c,d).

2.5.2.3 Directional Signage

Directional signs would be used at some major road intersections.

2.5.3 CULTURAL RESOURCES, INCLUDING EMIGRANT TRAILS

Cultural resource management would be limited to inventories and mitigation needed for specific projects, in compliance with Federal laws and regulations, as referenced in Section 2.3, Constraints and Goals.

2.5.4 NATIVE AMERICAN VALUES

Native American consultation would be conducted as needed for specific projects, in compliance with Federal laws and regulations.

2.5.5 PALEONTOLOGICAL RESOURCES

No additional management is identified for this alternative.

2.5.6 WILDERNESS

2.5.6.1 Wilderness Areas

WP Wilderness Area boundaries would be signed at approximately 1-mile intervals along appropriate boundary roads. Boundaries along other features (topography, point to point, etc.) would be signed on an as needed basis. **W**

2.5.6.2 Wilderness Study Area Designations

The Lahontan Cutthroat Trout Wilderness Study Area would be recommended as unsuitable for Wilderness designation, as stated in the Nevada BLM Statewide Wilderness Report Record of Decision (ROD), dated October 1991. This recommendation will stand before Congress until Congress either designates the Wilderness Study Area as Wilderness or releases it for other purposes. None of the 10 parcels within the Lahontan Cutthroat Trout Wilderness Study Area that were acquired and inventoried for wilderness characteristics (1,092 acres) would be added to the Wilderness Study Area under this alternative.

2.5.7 SPECIAL DESIGNATIONS

2.5.7.1 Areas of Critical Environmental Concern

2.5.7.1.1 High Rock Canyon ACEC

The existing 24,006-acre ACEC (Maps 2-5 a,b) would be maintained. The management goal would be to retain the important primitive, scenic, wildlife, cultural, and riparian values of the area.

The High Rock Canyon Road would be closed to vehicles from February 15 through March 31 each year to prevent damage to the emigrant trail and reduce human disturbance of wildlife.

2.5.7.1.2 Soldier Meadows ACEC

The existing 307-acre Soldier Meadows ACEC (Maps 2-5 a,b) would be maintained to preserve the unique combination of natural and cultural resources within this area. Management recommendations stated in the Soldier Meadows Activity Plan would be implemented, consistent with the Act.

2.5.7.2 Wild and Scenic Rivers

Of the 16 river segments found eligible for Wild and Scenic River status designation, no streams

would be recommended as suitable for such designation.

2.5.8 VEGETATION

Vegetation management decisions for the No Action Alternative are listed in the Common to All section. Ongoing management of the vegetation resource is designed to comply with Rangeland Health Standards and the intent of the Act, because there is no consistent direction for vegetation management in the four existing land use plans. (Management decisions from the four land use plans are provided in Appendix H.)

2.5.9 LIVESTOCK GRAZING

Grazing management decisions for the No Action Alternative are listed in the Common to All section. Ongoing management of the grazing resource is designed to comply with Rangeland Health Standards and the intent of the Act, because there is no consistent direction for grazing management in the four existing land use plans. Management decisions from the four land use plans are provided in Appendix H. Livestock grazing would also continue to be managed in accordance with current multiple use decisions and allotment plans.

2.5.10 WILD HORSES AND BURROS

No additional management is identified for this alternative.

2.5.11 WILDLAND FIRE

Currently, wildland fire management in the planning area is divided among four areas with different appropriate management responses assigned to each. These appropriate management responses range from aggressive initial attack and full

suppression action to manipulation of unprescribed fire to meet resource objectives (see Map 2-6).

In addition to the wildland fire management actions described under the Common to All section, initial suppression efforts would generally be conducted by BLM from its Winnemucca or Cedarville office, and as directed by mutual aid agreements. **WP** In Wilderness, management decisions concerning wildfire suppression and prescribed burns would be based on existing fire management plans, laws, regulations, and policies, in accordance with the minimum tool standard. **W**

2.5.12 FISH AND WILDLIFE

Wildlife and wildlife habitat management decisions for the No Action Alternative are listed in the Common to All section. Ongoing management of wildlife habitat is designed to comply with Rangeland Health Standards and the intent of the Act, because there is no consistent direction for wildlife habitat management in the four existing land use plans. (Management decisions from the four land use plans are provided in Appendix H.)

2.5.12.1 Fish and Wildlife Management

No additional management is identified for this alternative.

2.5.12.2 Fish and Wildlife Habitat

Vegetation manipulation projects would be allowed in accordance with the BLM Interagency Sage-grouse Guidelines.

WP Existing wildlife water developments would continue to be maintained in the following Wilderness Areas: five in High Rock Lake, one in Calico Mountains, five in North Black Rock Range, one in North Jackson Mountains, and three in Pahute Peak. **W**

2.5.13 SPECIAL STATUS SPECIES

No additional management is identified for this alternative.

2.5.14 VISUAL RESOURCES

VRM class designations are shown on Map 2-7.

The playa of the Black Rock Desert, an area along the west side of the Black Rock Range and the High Rock Canyon corridor, would be designated as VRM Class II.

The remaining portions of the planning area would be designated as VRM Class IV.

2.5.15 WATER RESOURCES

No additional management is identified for this alternative.

2.5.16 LANDS AND REALTY

Two existing utility corridors would be retained. One corridor would be parallel to the existing Los Angeles Department of Water and Power 1,000-kilovolt power line through the northwestern portion of the NCA. A second corridor would parallel the Union Pacific Railroad tracks. This second corridor would have a total width of 3 miles, with one-quarter mile north of the track restricted to buried facilities and two and three-quarters miles south of the track without restrictions (see Map 2-8).

Rights-of-way for aboveground utilities would not be granted on the Black Rock Desert Playa north of the Union Pacific Railroad tracks.

Rights-of-way in other portions of the planning area outside of Wilderness Areas would be considered and granted on a case-by-case basis under existing regulations.

Non-access land use permits, such as film permits, would be issued on a case-by-case basis.

2.5.17 MINERAL RESOURCES

2.5.17.1 Locatable Minerals Management

A major portion of the Lahontan Cutthroat Trout Area would remain closed to location, entry, and patent under the mining laws, pursuant to the Classification and Multiple-Use (C&MU) Act of May 1968, as shown on Map 2-9. Valid existing rights for mining claims within the C&MU classification have been determined under the authority of the 1872 General Mining Law and the C&MU Act. Federal lands outside of the C&MU classification and the Lahontan Cutthroat Trout Wilderness Study Area would be managed under the authority of the 1872 General Mining Law and other applicable laws and regulations.

Federal lands in the South Playa Area, and routes outside the NCA (shown on Map 2-9) would be open to location, entry, and patent under the mining laws and managed under authority of the 1872 General Mining Law and other applicable laws and regulations.

2.5.17.2 Leasable Minerals Management

No leases would be issued in the Lahontan Cutthroat Trout Wilderness Study Area. Federal lands in the sliver of BLM-managed public lands between the Wilderness Study Area and the Summit Lake Paiute Indian Reservation (see Map 2-10) would be administered under applicable laws and regulations.

Federal lands along the routes adjacent to the Wilderness Areas, as shown on Map 2-10, would be managed under applicable laws and regulations.

Federal lands within the South Playa Area would be open to development of all leasable minerals except sodium and potassium. The remaining leasable minerals would be managed under applicable laws and regulations.

2.5.17.3 Salable Minerals Management

The Lahontan Cutthroat Trout Wilderness Study Area would remain closed to mineral entry (See Map 2-11). Federal lands in the sliver of the Lahontan Cutthroat Trout Area would be administered under applicable laws and regulations. Federal lands within the South Playa Area and Wilderness Routes outside of the NCA would be managed under authority of the Mineral Materials Act of 1947 and applicable regulations. Materials site rights-of-way would be granted to the Nevada Department of Transportation under Title 23, Section 317 of the U.S. Code.

2.5.18 RECREATION

2.5.18.1 Recreation Management

All facilities within the planning area would be designed to be unobtrusive and aesthetically compatible with the location's setting.

Permits would not be required for casual use within the planning area.

Overnight camping would be allowed throughout the planning area, including Wilderness Areas, per BLM guidelines. Camping would be limited to 14 days within any 25-mile-radius area within a 28-day period, unless otherwise authorized, according to Nevada BLM policy (*Federal Register* 58-191, October 5, 1993).

Legal and noncommercial rock collection using nonmotorized hand tools and causing minimal surface disturbance would be allowed without permit. Collection of petrified wood would be limited to 25 pounds per day plus one piece, with a maximum collection of 250 pounds per year.

2.5.18.2 Special Recreation Permits

The permit evaluation process would consider the nature of the event, potential impacts on resources, conflicts with other events, and impacts on the quality of other visitors' experiences.

Any requests in special recreation permit applications to remove natural resources would be evaluated on a case-by-case basis and through a NEPA process.

2.5.19 PUBLIC OUTREACH AND VISITOR SERVICES

A roadside trailer-based visitor contact station would be provided at peak use times in the vicinity of Gerlach. A visitor information kiosk also would be maintained in Gerlach.

Volunteers or BLM staff would introduce and orient visitors to back-country use ethics.

Maps and brochures would be distributed at BLM offices, at the visitor contact station, by volunteers, and through private businesses.

WP No onsite outreach, interpretive, or regulatory information would be provided in Wilderness, except as required to protect resources.

W

2.6 ALTERNATIVE A

(Emphasis on Natural Processes)

2.6.1 LAND HEALTH STANDARDS

In this section and the other action alternative sections of this plan, the Rangeland Health Standards described in Section 2.4.1 are referred to as Land Health Standards to indicate that they apply to more than livestock grazing.

Land Health Standards developed by the Sierra Front–Northwest Great Basin Resource Advisory Council would apply to all uses and programs in the portions of the planning unit under the jurisdiction of the Winnemucca Field Office.

Land Health Standards developed by the Northeastern California Resource Advisory Council would apply to all uses and programs in the portions of the planning unit under the jurisdiction of the Surprise Field Office.

These standards are contained in Appendix C.

2.6.2 TRANSPORTATION AND OHV ROUTES

2.6.2.1 Functional Classes

Each road segment would be assigned to one of four functional categories and a corresponding maintenance category. Appendix D describes these functional and maintenance categories.

Table 2-2. BLM System Roads and Other Designated Routes (Alternative A)

Road Number	Road Name	Maintenance Level
Collector Roads		
2048	High Road	4
Resource Roads		
2049	Sulphur Jackson	2
2051	Pahute Meadow	2
2052	Bartlett Butte	2
2053	Cane Spring	2
2054	High Rock Lake	2
2055	Rock Spring	2
2070	Pole Creek West	2
2077	Cow Creek-	3
2086	Rabbithole	2
2088	Donnelly	2
2094	Playa Access	3
37002	High Rock	2
37003	Little Basin	2
37005	Frank's	2
37006	Wall Canyon	2
37012	Weimer	2
37015	Sand Spring	2
37017	Stevens Camp	3
37022	Woodruff	2
37024	Docking Corral	2
37032	Grassy	2
37035	Wildcat	2
	Cholona Playa	3
	Access	3
	Trego Playa	3
	Access	
	Garrett Playa	
	Access	
Designated Routes	All other vehicle routes, including wilderness access routes	No maintenance

See Map 2-12 for locations of roads and routes.

If vehicle use on any road or route causes damage to resources, the appropriate functional classification or maintenance level would be designated on the basis of an evaluation of all options.

Designated routes receiving vehicle use in excess of capacity could be downgraded in quality for the purpose of decreasing vehicle use.

Where public roads cross private property, BLM would attempt to acquire public access easements or develop road alignments that avoided private property.

2.6.2.2 OHV Designations

Vehicle use, including OHV use, would be managed by designating three use levels to cover the planning area (see Maps 2-13a,b,c,d). These would include:

- Areas that are open to vehicle use (104,546 acres)
- Areas that are closed to vehicle use (751,879 acres)
- Areas where vehicle use is limited to designated routes (346,191 acres).

The three use-level areas are shown on Map 2-13a,b,c,d. Wilderness Areas would be closed. A designated portion of the playa (not including the dunes) would be open. Vehicle use, including OHV use, in the remainder of the planning area would be limited to those BLM system roads and designated routes shown on Map 2-13a,b,c,d

2.6.2.3 Directional Signage

Existing directional signs would be maintained. New signs would be added where monitoring indicates a need to prevent resource damage or visitor confusion.

2.6.3 CULTURAL RESOURCES, INCLUDING EMIGRANT TRAILS

Cultural resource sites would be identified by site type and placed into appropriate cultural resource use categories, as defined in Appendix I. Site conservation would be emphasized.

2.6.4 NATIVE AMERICAN VALUES

Properties of Cultural and Religious Importance would be managed under the Traditional Use category, as defined in Appendix I. Uses that are consistent with the resource objectives for that area and that do not interfere with the sustainability of the resources would be allowed.

2.6.5 PALEONTOLOGICAL RESOURCES

Paleontological sites would be identified by site type and placed into appropriate paleontological use categories, as defined in Appendix I. The emphasis under Alternative A would be on conservation, with some scientific use allowed. Collection of petrified wood and common invertebrate fossils would be prohibited except for scientific purposes with a permit.

2.6.6 WILDERNESS

2.6.6.1 Wilderness Areas

WP Wilderness boundaries would be signed at approximately half-mile intervals along boundary roads and at 1-mile intervals along other sections of boundary. Line of sight signing would also occur in areas that have continuing problems with motorized trespass. **WP**

2.6.6.2 Wilderness Study Area Designations

All 10 of the parcels within the Lahontan Cutthroat Trout Wilderness Study Area that were acquired and inventoried for wilderness characteristics (1,092 acres), would be added to the Wilderness Study Area and managed under the Interim Management Policy. Two BLM system roads, the main Bartlett Butte Road (#2052) and the

Pole Creek West Road (#2070) would not be included in the Wilderness Study Area. (see Map 2-23).

The Lahontan Cutthroat Trout Area would be seasonally closed to motor vehicles during the spawning season of the Lahontan cutthroat trout (February–June).

2.6.7 SPECIAL DESIGNATIONS

2.6.7.1 Areas of Critical Environmental Concern

2.6.7.1.1 High Rock Canyon ACEC

The existing 24,006-acre ACEC would be maintained. Special management actions would include:

- No camping would be allowed within the High Rock Canyon portion of the ACEC. Elsewhere in the ACEC, camping would be allowed at designated sites.
- No rock climbing would be allowed adjacent to the emigrant trail, to protect the resources in the canyon.
- Portions of the ACEC in High Rock, Little High Rock, East Fork, Mahogany, Grassy, and Yellow Rock Canyons would be closed to visitor use from January 31 through May 15 each year to prevent damage to the emigrant trail and to reduce human disturbance of wildlife, including disturbance of bighorn sheep lambing and raptor nesting.

2.6.7.1.2 Soldier Meadows ACEC

The existing ACEC would be increased to approximately 3,770 acres to include public land portions of all critical and occupied desert dace habitat, all basalt cinquefoil populations, habitat for four springsnails found only in the Soldier Meadows area, and important cultural resource values. Special management actions would include:

- No camping would be allowed within the ACEC.

- The existing hot spring access road would be rerouted away from sensitive resources. All spur roads from the access road would be closed (Map 2-14b).
- Springs and streams would be managed to minimize human use impacts on desert dace.
- The ACEC (Map 2-14a) would be fenced to provide for more manageable livestock grazing, and wild horse and recreation uses.
- Grazing by livestock would be permitted within the fenced portions of the ACEC when consistent with the recovery of the rare and listed species within the ACEC.
- Wild horse use would not be allowed in the fenced portion of the ACEC.

2.6.7.2 Wild and Scenic Rivers

Sixteen stream segments (137.3 miles) found to be eligible for Wild and Scenic River designation would be recommended as suitable for such designation (see Map 2-15). Appendix J provides further details on the Wild and Scenic River findings.

2.6.8 VEGETATION

Management would maintain or establish diversity mosaics and connectivity of upland communities at multiple scales across the landscape. Management would include a variety of methods to increase or decrease sagebrush overstories to meet site-specific resource objectives.

Vegetation manipulation projects would be implemented primarily to move plant communities toward desired conditions, improve structural and species diversity, and protect soil and water resources.

The frequency, distribution, and ecological function of stands of mountain shrubs would be restored to stable conditions, then maintained consistent with site potential and other management objectives.

Site-specific prescriptions would be created for restoration and maintenance of individual aspen stands to achieve the objectives.

On portions of rangelands that are currently dominated by monoculture stands of annual grasses, where the likelihood of restoration is high, habitat

complexity and structure would be restored through seeding.

Mature sagebrush cover would be retained on sage-grouse habitats unless site-specific analysis shows that alteration of shrub cover would increase habitat values for sage-grouse and other sagebrush-dependent wildlife species.

WP Vegetation treatments would not be applied in Wilderness Areas, except for treatment of noxious weeds. **W**

2.6.9 LIVESTOCK GRAZING

The Stanley Camp Pasture within the Soldier Meadows Allotment would be excluded from livestock grazing or trailing. Grazing by livestock would be permitted within the fenced portions of the Soldier Meadows ACEC when consistent with the recovery of the rare and listed species within the ACEC.

2.6.10 WILD HORSES AND BURROS

No additional management is identified for this alternative.

2.6.11 WILDLAND FIRE

All of the planning area would be placed in one of two management categories with a corresponding Appropriate Management Responses based on the criteria in Appendix K. As shown in Map 2-16, 7,892 acres would be designated for an appropriate management response to wildland fire as described in Appendix K for Category A; 1,214,514 acres would be designated for an appropriate management response to wildland fire as described in Appendix K for Category B.

The updated fire management plan would refine the selected appropriate management response categories by geographic area and define applicable special requirements for fire suppression. The updated plan would be maintained based on changes in technology, policy, scientific knowledge, and other factors.

Category A areas would be associated with private lands, BLM facilities, and other areas where fire would not be desired. In Category B areas, a variety of appropriate fire suppression techniques would be applied to meet the resource objectives specified in this plan and other site-specific activity plans. The updated fire management plans could be used to further subdivide Category B areas to better meet site-specific resource objectives or fire management needs.

Prescribed fire and mechanical treatment of vegetation, where applicable to achieve resource objectives, would be used in both Category A and Category B lands outside of Wilderness.

Suppression efforts would be managed to contain wildland fires in Category A areas to less than 100 acres 90 percent of the time. For human-caused fires, suppression efforts would be managed to contain fires to less than 50 acres 90 percent of the time.

In all wildland fire situations, priority would be given to placing resources capable of initiating aggressive suppression in a position to evaluate the fire using the criteria contained in Appendix K to determine the best response for local conditions.

Minimum impact suppression techniques would be used throughout the area (see Appendix F). Use of heavy, surface-disturbing equipment would be limited and would require prior approval by the field manager to protect public and firefighter safety, private property, and other resources. Plans to provide appropriate fire suppression resources in or near the planning area for initial attack would be updated to allow achievement of the objectives and specific decisions in this section.

Outside of Wilderness, prescribed fire would be used on a site-specific basis to accomplish local small-scale projects consistent with the vegetation objectives. Low-surface-disturbance mechanical treatments, consistent with vegetation objectives, would be the preferred means of fuel reduction.

WP No prescribed fire would be used in Wilderness Areas. **W**

2.6.12 FISH AND WILDLIFE

2.6.12.1 Fish and Wildlife Management

WP Existing wildlife water developments in Wilderness Areas would not be maintained and would be removed when they became non-functional.

Construction of new wildlife water developments would not be allowed.

Animal damage control by the U.S. Department of Agriculture Wildlife Services would not be allowed in Wilderness. **W**

2.6.12.2 Fish and Wildlife Habitat

Management of sage-grouse habitats would comply with the recommendations of the Nevada Governor and local plans from the Washoe-Modoc and North Central sage-grouse local working groups for recovery of sage-grouse populations.

2.6.13 SPECIAL STATUS SPECIES

No additional management is identified for this alternative.

2.6.14 VISUAL RESOURCES

The South Playa Area would be VRM Class III. The remaining portions of the planning area (excluding Wilderness Areas and the Wilderness Study Area, which are Class I) would be VRM Class II (Map 2-17).

2.6.15 WATER RESOURCES

No additional management is identified for this alternative.

2.6.16 LANDS AND REALTY

Two existing utility corridors, but not existing utilities, would be eliminated.

Rights-of-way for utilities would be granted only in the non-Wilderness portion of the planning area, for access to private lands, and in support of valid existing rights (See Map 2-18).

Land use permits, such as filming permits, would be issued consistent with the guidelines for special recreation permits, as discussed in Section 2.7.16 (Recreation).

2.6.17 MINERAL RESOURCES

2.6.17.1 Locatable Minerals Management

Subject to valid existing rights, Federal lands within the South Playa Area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA, as shown on Map 2-19, would be withdrawn from location, entry, and patent under the 1872 General Mining Law and other applicable laws and regulations.

2.6.17.2 Leasable Minerals Management

Subject to the terms of existing leases, Federal lands within the South Playa Area, the Lahontan Cutthroat Trout Area and vehicle access routes outside the NCA, but within the planning area, as shown on Map 2-20, would be withdrawn from the mineral leasing laws.

2.6.17.3 Salable Minerals Management

Subject to valid existing rights, Federal lands within the South Playa Area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA, as shown on Map 2-21, would be withdrawn from the Mineral Materials Act.

2.6.18 RECREATION

2.6.18.1 All Zones

Where resource impacts would occur as a result of camping, specific restrictions on camping would be applied. In Front Country, Rustic, and, where feasible, in Wilderness Zones, camping would be restricted to areas more than 200 feet from water, unless otherwise designated.


No facilities would be developed. Existing structures could be removed, unless they have been determined to be eligible for inclusion in the National Register of Historic Places. In areas or sites where visitation is causing resource damage, user conflict, or crowding at attraction areas, a permit system might be implemented to manage use.

The development of privately operated campgrounds would be encouraged on public lands outside of the NCA and on private lands both inside and outside the NCA boundaries.

No recreational or commercial collection of rocks, minerals, common invertebrate fossils, or petrified wood would be allowed. Collection for scientific use would be authorized under permit.

If monitoring determines that human use is degrading specific resources, nonmotorized trails would be constructed, relocated, or closed to mitigate human-caused impacts.

2.6.18.2 Wilderness Zone

 Approximately 765,000 acres would be managed for wilderness visitor experiences, as shown on Map 2-23.

Limits on group size would be implemented to minimize the impact that large groups could have on the experience of other wilderness visitors and on the physical environment and naturalness of the areas. Groups would be limited to 15 humans and stock combined (i.e., 10 humans and 5 stock, 7 and 8, etc.).



2.6.18.3 Rustic Zone

As shown on Map 2-23, 344,054 acres would be managed for rustic visitor experiences.

Dispersed camping would be allowed throughout this zone except within one-half mile of designated camp sites. If monitoring shows resource impacts in an area, specific sites would be designated for camping.

The following areas containing sensitive resources would be designated as day-use only:

- Portions of High Rock Canyon ACEC outside of Wilderness
- Soldier Meadows ACEC
- Class A and B historic trail segments
- Rustic portions of the Lahontan Cutthroat Trout Area, excluding the sliver of BLM land between the WSA and the Summit Lake Paiute Reservation.

(See Map 2-22 for locations.)

Groups traveling with more than three vehicles would be required to camp in BLM-designated group camp areas. These would be primitive camp sites identified by a small sign or other means in areas suitable for large groups.

Camping at designated sites would be limited to 10 days.

2.6.18.4 Front Country Zone

As shown on Map 2-23, 133,620 acres would be managed for front country visitor experiences.

Dispersed camping would be allowed on the playa. Dune and hummock areas bordering the playa would be closed to camping for the protection of sensitive soils, vegetation, and critical wildlife habitat.

Groups traveling with more than 10 vehicles would be required to camp in BLM-designated group camp areas. These would be primitive camp sites identified by a small sign or other means in areas suitable for large groups.

Camping at designated sites would be limited to 10 days

2.6.18.5 Special Recreation Permit Events

A comprehensive permitting process for organized recreation events and other permitted activities would be developed, based on a classification system for events of similar scale and potential impacts. This process would streamline permit issuance; set standards for when permits are

required; and support resource, visitor experience, and other management objectives. Permits would be assigned to one of four classes of events (I through IV). A detailed outline of the classification system is provided in Appendix L.

- Class I events would be permitted throughout the planning area and would not require public closure areas.
- Class II events would be permitted in the Front Country and Rustic Zones, except for those events requiring public closure areas. Class II events that require closure of public areas would be permitted within a designated area of the Front Country playa, shown on Map 2-24. The number of Class II events would not be limited except when proposed closure areas would overlap.
- Class III events would be permitted within a designated area of the Front Country Zone, shown on Map 2-24, and along the emigrant trail for tours that are compatible with the objectives for the historic trails.
- Class IV events would be permitted in the Front Country Zone as shown on Map 2-24.

Class III and IV events would be permitted on four weekends between and including the Memorial Day and Labor Day weekends. During the rest of the year, Class III and IV events would be evaluated on a case-by-case basis.

An area of the playa, shown on Map 2-24, would be available for Class III and IV events. A rocket launch area would be designated, as shown on Map 2-24, away from main travel corridors and high-visitor-use areas.

Only one Class III or IV event could occur at a time.

Only one access point to the playa would be closed in conjunction with Class III and IV events.

Gerlach. A visitor information kiosk also would be maintained in Gerlach.

Interpretive information would be available in several existing, cooperatively managed visitor centers and kiosks outside the NCA.

2.6.19.2 Wilderness Zone

WP No onsite outreach, interpretive, or regulatory information would be provided, except when necessary to protect resources. **W**

2.6.19.3 Rustic Zone

No onsite interpretation would be provided in the Rustic Zone. Existing interpretation signs would be removed.

Self-guided tours based on maps and brochures would be used to stimulate learning through self-discovery.

2.6.19.4 Front Country Zone

No onsite interpretation would be provided in the Front Country Zone.

Self-guided tours based on maps and brochures would be used to stimulate learning through self-discovery.

2.6.19 PUBLIC OUTREACH AND VISITOR SERVICES

2.6.19.1 All Zones

A roadside trailer-based visitor contact station would be provided at peak use times in the vicinity of

2.7 ALTERNATIVE B

(PREFERRED ALTERNATIVE)

(Emphasis on Response to Change)

2.7.1 LAND HEALTH STANDARDS

Management actions would be the same as Alternative A.

2.7.2 TRANSPORTATION AND OHV ROUTES

2.7.2.1 Functional Classes

Each road segment would be assigned to one of four functional categories with a corresponding maintenance category. Appendix D contains descriptions of functional and maintenance categories.

Table 2-3. BLM System Roads and Other Designated Routes (Alternative B)

Road Number	Road Name	Maintenance Level
Collector Roads		
2048	High Road	4
Local Roads		
37017	Stevens Camp	3
Resource Roads		
2049	Sulphur Jackson	3
2051	Pahute Meadow	2
2052	Bartlett Butte	2
2053	Cane Spring	2
2054	High Rock Lake	2
2055	Rock Spring	2
2070	Pole Creek West	2
2077	Cow Creek-	3
2086	Rabbithole	2
2088	Donnelly	2
2094	Playa Access	3
37002	High Rock	2
37003	Little Basin	2
37005	Frank's	2
37006	Wall Canyon	2
37012	Weimer	2
37015	Sand Spring	2
37017	Stevens Camp	3
37022	Woodruff	2
37024	Docking Corral	2
37032	Grassy	2
37035	Wildcat	2
	Cholona Playa	3
	Access	3
	Trego Playa	3
	Access	
	Garrett Playa	
	Access	
Designated Routes	All other vehicle routes, including wilderness access routes	No maintenance

See Map 2-25 for locations of roads and routes.

Functional classification or maintenance levels of BLM system roads or designated routes could be changed following an evaluation of vehicle use and resource issues. The evaluation could conclude (1) that the road should be upgraded in functional classification or maintenance level; (2) that other measures could be implemented that would resolve

resource or safety issues; or (3) that no action would occur.

Where public roads cross private property, BLM would attempt to acquire public access easements or develop road alignments that avoid the private property.

Public access on the east side of the Black Rock Range from Humboldt County Road 214 would be developed to provide north-south access to Black Rock Point and east-west access to BLM Road #2051 (Pahute Meadow Road).

2.7.2.2 OHV Designations

Vehicle use, including OHV use, would be managed by designating three use levels to cover the planning area. These would include:

- Areas that are open to vehicle use (104,546 acres)
- Areas that are closed to vehicle use (751,879 acres)
- Areas where vehicle use is limited to designated routes (346,191 acres)

The three use-level areas indicated above are shown on Map 2-26a,b,c,d. Wilderness Areas would be closed. A designated portion of the playa (not including the dunes) would be open. Vehicle use, including OHV use, in the remainder of the planning area would be limited to those BLM system roads and designated routes shown on Map 2-26a,b,c,d.

2.7.2.3 Directional Signage

Directional signs would be installed and maintained at intersections of BLM system roads with other BLM, state, or county roads, and where monitoring indicates additional signs are needed to prevent resource damage or visitor confusion (such as at intersections of designated routes with higher standard roads).

Alternative methods of providing location and directional information, that would supplement traditional signing, would be evaluated and implemented.

2.7.3 CULTURAL RESOURCES, INCLUDING EMIGRANT TRAILS

Cultural resource sites would be identified by site type and placed into appropriate cultural resource use categories, as defined in Appendix I. The emphasis for this alternative would be public use; however, if site monitoring indicated a need for additional protection or site mitigation, the site would be reclassified into a use category appropriate for new management.

2.7.4 NATIVE AMERICAN VALUES

Properties of Cultural and Religious Importance would be managed under the Traditional Use category, as defined in Appendix I. Uses that are consistent with resource objectives for that area and that do not interfere with the sustainability of the resources would be allowed.

2.7.5 PALEONTOLOGICAL RESOURCES

Paleontological sites would be identified by site type and placed into appropriate paleontological use categories, as defined in Appendix I. The general emphasis for Alternative B would be the same as that for Alternative A, with the addition that paleontological sites would be monitored. If sites were damaged, use categories would be shifted to provide better protection or easier recovery of scientific values. Collection of common invertebrates and petrified wood would be allowed, except in the Hanging Rock Petrified Forest, under the same terms stated for rock collection in the Recreation section.

The Hanging Rock Petrified Forest area would be closed to collection of petrified wood and other fossils, rocks, and minerals, unless such collection was for scientific purposes and was authorized by a permit.

2.7.6 WILDERNESS

2.7.6.1 Wilderness Areas

Wilderness boundaries would be signed at approximately 1-mile intervals along all boundary roads. Boundaries along other features (topography, point to point, etc.) would be signed on an as needed basis.

2.7.6.2 Wilderness Study Area Designations

All 10 parcels within the Lahontan Cutthroat Trout Wilderness Study Area that were acquired and inventoried for wilderness characteristics (see Map 2-27) would be added to the Wilderness Study Area and managed under the Interim Management Policy. Existing designated routes, as well as the portions of the main Bartlett Butte BLM system road (#2052), the Summer Camp route, the Pole Creek West Road, and the route into Wood Canyon would not be included in the Wilderness Study Area additions and would remain open to vehicle traffic. To exclude camping impacts from the Wilderness Study Area, the Wilderness Study Area boundary would be located 100 feet from the center lines (on both sides) of the above routes in Units 1 and 2 (see Map 2-34).

If monitoring indicates that impacts are occurring to the spawning habitat of the Lahontan cutthroat trout, appropriate motor vehicle restrictions would be implemented in the Lahontan Cutthroat Trout Area.

2.7.7 SPECIAL DESIGNATIONS

2.7.7.1 Areas of Critical Environmental Concern

2.7.7.1.1 High Rock Canyon ACEC

The High Rock Canyon ACEC would be reduced to the approximately 5,664 acres corresponding to the High Rock Canyon Road

corridor, Stevens Camp, and the Pole Corral areas. (See Map 2-28a.) These areas would be managed to maintain the natural and cultural values of the ACEC while providing opportunities for human use and enjoyment of those resources. Additional special management actions would include the following:

- Camping would be allowed only in designated camping areas.
- No rock climbing would be allowed, to protect the sensitive raptor nesting and cultural resources in the canyon.

A portion of the ACEC between the mouth of High Rock Canyon and 5 miles below Stevens Camp would be closed to visitor use from January 31 through May 15 each year to prevent damage to the emigrant trail and reduce human disturbance of wildlife, including disturbance of bighorn sheep lambing and raptor nesting.

2.7.7.1.2 Soldier Meadows ACEC

The existing ACEC would be increased to approximately 2,077 acres to include public land portions of all critical and occupied desert dace habitat, all basalt cinquefoil populations, and habitat for four springsnails found only in the Soldier Meadows area, consistent with the Recovery Plan for the Rare Species of Soldier Meadows (U.S. Department of the Interior, FWS, 1997). Special management actions would include:

- Camping would be allowed only in designated camping sites.
- The existing hot spring access road would be rerouted away from sensitive resources. All spur roads from the access road would be closed (Map 2-28b).
- Habitats for desert dace, basalt cinquefoil, and springsnails within the ACEC would be fenced to provide protection and improve manageability of these important resources.
- A management approach would be used to adjust management actions to recover rare species in the ACEC.
- Grazing by livestock would be permitted within fenced portions of the ACEC when consistent with the recovery of the listed and rare species within the ACEC. Wild horse use would not be allowed in the fenced portion of the ACEC.

- Appropriate actions would be implemented from the Soldier Meadows Activity Plan and the Recovery Plan for Rare Species of Soldier Meadows.

2.7.7.2 Wild and Scenic Rivers

The five streams outside of Wilderness found eligible for Wild and Scenic River designation (34.1 miles) would be recommended as suitable and managed in accordance with Wild and Scenic River policy (provided in Appendix J). These streams include: Soldier Meadows Hot Springs Creek, Summer Camp Creek, Mahogany Creek (Wilderness Study Area), Snow Creek (outside of Wilderness), and High Rock Canyon Creek (see Map 2-29).

2.7.8 VEGETATION

Management would maintain or establish diversity mosaics and connectivity of upland communities at multiple scales across the landscape. Management would include a variety of methods to increase or decrease sagebrush overstories to meet site-specific resource objectives.

Vegetation manipulation projects would be implemented primarily to move plant communities toward desired conditions, improve structural and species diversity, and protect soil and water resources.

The frequency, distribution, and ecological function of stands of mountain shrubs would be restored to stable conditions, then maintained consistent with site potential and other management objectives.

Site-specific prescriptions would be created for restoration and maintenance of individual aspen stands to achieve the objectives.

On portions of rangelands that are currently dominated by monoculture stands of annual grasses, where the likelihood of restoration is high, habitat complexity and structure would be restored through seeding.

Mature sagebrush cover would be retained on sage-grouse habitats unless an evaluation conducted as part of an adaptive management process shows that alteration of shrub cover would increase habitat values for sage-grouse and other sagebrush-dependent wildlife species.

WP Vegetation treatments, including prescribed fire, would be allowed in all Wilderness Areas, consistent with the minimum tool principle, to restore the naturalness of areas that have been impacted by human activities. **W**

Best Management Practices and guidelines would be regularly evaluated and updated, so that the most current management solutions were used to solve resource and human use issues.

2.7.9 LIVESTOCK GRAZING

The Stanley Camp Pasture within the Soldier Meadows Allotment would be excluded from livestock grazing and trailing.

Grazing within the fenced portions of the Soldier Meadows ACEC would be authorized when an evaluation process concludes that grazing is consistent with the resource management objectives for the ACEC.

The boundaries of the Buffalo Hills, Jackson Mountains, and Paiute Meadows Allotments would be adjusted, as shown on Map 2-30, to better conform to historical grazing patterns. No adjustment in permitted forage use would be made as a result of the boundary adjustments.

2.7.10 WILD HORSES AND BURROS

No additional management is identified for this alternative.

2.7.11 WILDLAND FIRE

In addition to the fire management actions described in Alternative A, fire suppression techniques would be applied for each wildland fire situation to meet the resource objectives specified in this plan and other site-specific activity plans.

Wildland fire and prescribed fire could be used throughout the planning area to manipulate the woody and herbaceous species to meet vegetation objectives.

2.7.12 FISH AND WILDLIFE

2.7.12.1 Fish and Wildlife Management

WP Animal damage control in Wilderness would be allowed only to protect threatened and endangered species, to prevent the transmission of disease to other wildlife or humans, and to prevent serious losses to domestic livestock. Methods of control would be those that had the least impact on wilderness characteristics. **W**

2.7.12.2 Fish and Wildlife Habitat

Habitats for sage-grouse and other sagebrush obligate species would be managed to retain the vegetation and other attributes necessary for the long-term sustainability of sage-grouse and other sagebrush-dependent wildlife species. Management would be guided by Rangeland Health Standards, the Western Association of Fish and Wildlife Agencies guidelines, and the local plans of the Washoe-Modoc and North Central working groups. Periodic adjustments to the management of sage-grouse habitats and the guidelines would be based on the best available information.

Best Management Practices and guidelines would be regularly evaluated and updated to ensure that the most current management solutions are being used to solve resource and human use issues.

2.7.12.2.1 Wildlife Water Developments

WP Existing wildlife related projects, including water developments in the NCA and Wilderness Areas, would be repaired, maintained and reconstructed. Inspection of projects would be completed regularly to minimize the amount of maintenance and reconstruction required. Maintenance activities would be conducted as needed, and maintenance of projects in Wilderness would be conducted using methods consistent with minimum tool analysis. These methods could include access by helicopter as well as nonmechanized means.

New water developments or other wildlife-related projects could be constructed when the project would promote healthy, viable, and more naturally

distributed native wildlife populations and would enhance wilderness values; was required to preserve wilderness values; or was required to correct unnatural wildlife habitat conditions caused by human actions. Any projects constructed would be designed to minimize visual impacts.

New water developments could be constructed within Wilderness near High Rock Canyon, subject to the above requirements, to provide water for bighorn lambing that is not subject to recreation-related disturbance. **W**

2.7.13 SPECIAL STATUS SPECIES

No additional management is identified for this alternative.

2.7.14 VISUAL RESOURCES

VRM class designations are shown on Map 2-31.

The South Playa Area would be designated as VRM Class III. The remaining portions of the planning area (excluding Wilderness Areas and the Wilderness Study Area, which are Class I) would be designated VRM Class II.

2.7.15 WATER RESOURCES

No additional management is identified for this alternative.

2.7.16 LANDS AND REALTY

One utility corridor, 2.75 miles wide, south of the Union Pacific Railroad tracks would be designated for buried utilities.

Right-of-way grants for buried utilities would be maintained and permitted in Rustic and Front Country Zones, consistent with attainment of resource objectives (See Maps 2-32 and 2-34).

Land use permits, such as filming permits, would be issued consistent with the guidelines for

special recreation permits, as discussed in the Recreation section.

2.7.17 MINERAL RESOURCES

2.7.17.1 Locatable Minerals Management

Subject to valid existing rights, Federal lands within the South Playa Area, the Lahontan Cutthroat Trout Wilderness Study Area, and vehicle access routes outside the NCA, as shown on Map 2-19, would be withdrawn from location, entry, and patent under authority of the 1872 General Mining Law and other applicable laws and regulations.

2.7.17.2 Leasable Minerals Management

Subject to the terms of existing leases, Federal lands within the South Playa Area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA, as shown on Map 2-20, would be withdrawn from the mineral leasing laws.

2.7.17.3 Salable Minerals Management

Subject to valid existing rights, Federal lands within the South Playa Area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA, as shown on Map 2-21, would be withdrawn from the Mineral Materials Act.

2.7.18 RECREATION

2.7.18.1 All Zones

A recreation management plan developed through a public process would be used to determine resource indicators to guide recreation management decisions. Examples of indicators for determining when and where visitor allocations would need to be made include resource damage (e.g. vegetation damage, proliferation of camp sites, human waste

problems, vandalism to historical, archeological, paleontological sites), conflicts with special status plant or animal species, and number of social encounters.

In areas in which adverse impacts on resources or the visitor experience are occurring, limits on human activities could be set. These limits could affect areas of use, group size, duration of stay, number of people or vehicles, or types of activities (See Map 2-33). Developed campgrounds could be constructed if other management tools proved ineffective.

All facilities would be designed to be unobtrusive and aesthetically compatible with the landscape.

If monitoring indicates that there are unacceptable resource impacts on hot spring attraction areas or that public safety is unreasonably compromised by hazards, facilities such as fencing or boardwalks could be constructed around hot springs.

An adaptive management approach would be used to monitor areas or sites. Where visitation is causing resource damage, user conflict, or crowding at attraction areas, a permit system could be implemented to provide information and to increase user awareness, to track visitation, and to reduce use-related impacts.

The development of privately operated campgrounds would be encouraged on public lands outside of the NCA and on private lands both inside and outside the NCA boundaries.

Collection of rocks, minerals, and common invertebrate fossils would be authorized by permit only and would be limited to 25 pounds per day plus one piece, with a maximum collection of 250 pounds per year. Collection using nonmotorized hand tools and causing minimal surface disturbance would be allowed without permit. Collection limits could be waived for scientific or educational use under permit.

If monitoring determines that human use is degrading specific resources, nonmotorized trails would be constructed, relocated, or closed to mitigate human-caused impacts.

If conflicts among different uses occur, or demand necessitates, nonmotorized trails could be developed to separate different user types, or specific times and locations could be designated for certain modes of travel.

The National Desert Trail would be extended through Wilderness Areas and the NCA.

2.7.18.2 Wilderness Zone

WP Dispersed camping would be allowed throughout this zone except within one-half mile of designated camp sites.

Where monitoring indicates that large groups are having impacts on resources or the visitor experience, limits on group size would be implemented. **WP**

2.7.18.3 Rustic Zone

As shown on Map 2-34, 326,632 acres would be managed for rustic visitor experiences.

Dispersed camping would be allowed throughout this zone except within one-half mile of designated camp sites. Specific sites would be designated for camping if monitoring shows that negative impacts on resources are being caused by camping. Dune and hummock areas associated with the playa could be closed to camping if monitoring indicates that these have been negative impacts on sensitive soils, vegetation, or critical wildlife habitat.

Drive in camping would be limited to designated sites in portions of the High Rock Canyon ACEC outside of Wilderness, near cultural resource sites, in dune and hummock areas associated with the playa, and in Rustic Zone portions of the Lahontan Cutthroat Trout Area. If monitoring data indicates excess impacts in areas containing sensitive resources, camp sites would be closed, and the areas restored.

2.7.18.4 Front Country Zone

As shown on Map 2-34, 153,490 acres would be managed for front country visitor experiences.

Dispersed camping would be allowed on the playa more than one-half mile from designated camp sites. Dune and hummock areas associated with the playa could be closed to camping for the protection of sensitive soils, vegetation, and critical wildlife habitat.

2.7.18.5 Special Recreation Permits

A comprehensive permitting process for organized recreation events and other permitted activities would be developed, based on a classification system for events of similar scale and potential impacts. This permit process would

streamline permit issuance; set standards for when permits are required; and support resource, visitor experience, and other management objectives. Permits would be assigned to one of four classes of events (I through IV). A detailed outline of the classification system is provided in Appendix L.

- Class I events would be permitted throughout the planning area and would include no public closure areas.
- Class II events, except those requiring public closure areas, would be permitted throughout the Front Country and Rustic Zones. Class II events that require areas of public closure would be permitted within a designated area of the Front Country playa, as shown on Map 2-35. The number of Class II events would not be limited, except when proposed closure areas would overlap.
- Class III events would be permitted within a designated area of the Front Country, shown on Map 2-35, and for tours along the emigrant trail that are compatible with the objectives for the historic trails.
- Class IV permits would be permitted as shown on Map 2-35

Class III and IV events would be permitted on eight weekends between and including the Memorial Day and Labor Day weekends. During the rest of the year, Class III and IV events would be evaluated on a case-by-case basis.

An area of the playa, shown on Map 2-35 would be available for Class III and IV events. A rocket launch area would be designated, as shown on Map 2-35, away from main travel corridors and high-visitor-use areas.

Two Class III and IV events could occur simultaneously, but only one could be a Class IV event.

No more than two access points to the playa would be closed in conjunction with Class III and IV events on the same weekend.

2.7.19 PUBLIC OUTREACH AND VISITOR SERVICES

2.7.19.1 All Zones



Interpretive techniques, including on-the-ground elements, would be deployed when monitoring and evaluation determine that they are needed to prevent resource damage or to enhance visitor safety.

A visitor center located along a major access corridor to the NCA, with appropriate staff, would be developed and managed in cooperation with tribal, state, local, or private partners.

Cooperative partnerships would be established with gateway communities, tribal governments, and the private sector. These partnerships would help provide recreational support services on private land and on BLM and tribal lands outside the NCA.

Academic and public research would be encouraged through outreach and agreements with organizations, schools, universities, and qualified individuals (See Appendix M).

2.7.19.2 Wilderness Zone

 No onsite outreach, interpretive, or regulatory information would be provided in the Wilderness Zone, except when required to protect resources. 

2.7.19.3 Rustic Zone

A variety of outreach methods could be used to mitigate adverse resource impacts, such as motorized trespass in Wilderness, safety hazards, and impacts on private landowners. Methods could include:

- Small information kiosks
- Small, unobtrusive signs
- Self-guided interpretive trails.

2.7.19.4 Front Country Zone

A variety of visitor facilities would be identified through monitoring, to increase public appreciation of the area, mitigate impacts caused by visitor use, and enhance visitor safety.

Maps and related information would be available in a few Front Country kiosks. Low profile signs on low posts would be located at a limited number of important trail and other resource sites.

A variety of outreach methods could be used to mitigate adverse resource impacts, including motorized trespass in Wilderness, safety hazards, and impacts on private landowners. These methods could include:

- Interpretive trails and tours based on maps or brochures, with minimal or no on-the-ground markers, in areas with great interpretive value or to increase awareness of threatened resources
- Onsite interpretive panels, public awareness programs, and informational kiosks in high-use camp areas and along main travel corridors
- A scenic overlook with interpretive and safety information along main travel corridors near the periphery of the NCA
- Small, unobtrusive signs with a horizontal profile at limited sites to educate the public about particular resources or safety hazards.

2.8 ALTERNATIVE C

(Emphasis on Visitation and Interpretation)

2.8.1 LAND HEALTH STANDARDS

Management actions would be the same as Alternative A.

2.8.2 TRANSPORTATION AND OHV ROUTES

2.8.2.1 Functional Classes

Each road segment would be assigned to one of four functional categories with a corresponding maintenance category. Appendix D contains descriptions of functional and maintenance categories.

Table 2-4. BLM System Roads and Other Designated Routes (Alternative C)

Road Number	Road Name	Maintenance Level
Collector Roads		
2048	High Road	4
Local Roads		
2054	High Rock Lake	3
37017	Stevens Camp	3
37032	Grassy	3
Resource Roads		
2049	Sulphur Jackson	3
2051	Pahute Meadow	2
2052	Bartlett Butte	2
2053	Cane Spring	2
2055	Rock Spring	2
2070	Pole Creek West	2
2077	Cow Creek-	3
2086	Rabbithole	2
2088	Donnelly	2
2094	Playa Access	3
37002	High Rock	2
37003	Little Basin	2
37005	Frank's	2
37006	Wall Canyon	2
37012	Weimer	2
37015	Sand Spring	2
37017	Stevens Camp	3
37022	Woodruff	2
37024	Docking Corral	2
37035	Wildcat	2
	Cholona Playa	3
	Access	3
	Trego Playa	3
	Access	
	Garrett Playa	
	Access	
Designated Routes	All other vehicle routes, including wilderness access routes	No maintenance

See Map 2-36 for locations of roads and routes.

Functional classifications or maintenance levels of BLM system roads or designated routes could be changed following an evaluation of vehicle use and resource issues. The evaluation could conclude (1) that the road should be upgraded in functional classification or maintenance level; (2) that other

measures could be implemented that would resolve resource or safety issues; or (3) that no action would occur.

Where public roads cross private property, BLM would attempt to acquire public access easements or to develop road alignments that avoid the private property.

Public access on the east side of the Black Rock Range from Humboldt County Road 214 would be developed to provide north-south access to Black Rock Point and east-west access to BLM Road #2051 (Pahute Meadow Road).

2.8.2.2 OHV Designations

Vehicle use, including OHV use, would be managed by designating three use levels to cover the planning area. These would include:

- Areas that are open to vehicle use (104,546 acres)
- Areas that are closed to vehicle use (751,879 acres)
- Areas where vehicle use is limited to designated routes (346,191 acres)

The three use-level areas indicated above are shown on Maps 2-37a,b,c,d. Wilderness Areas would be closed. A designated part of the playa (not including the dunes) would be open. Vehicle use, including OHV use, in the remainder of the planning area would be limited to those BLM system roads and designated routes shown on Maps 2-37a,b,c,d.

2.8.2.3 Directional Signage

Directional signs would be installed and maintained at intersections of BLM system roads with other BLM, state, or county roads, and where monitoring indicated additional signs are needed to prevent resource damage or visitor confusion (such as at intersections of designated routes with higher standard roads).

Alternative methods of providing location and directional information, that would supplement traditional signing, would be evaluated and implemented.

2.8.3 CULTURAL RESOURCES, INCLUDING EMIGRANT TRAILS

Cultural resource sites would be identified by site type and placed into appropriate cultural resource use categories, as defined in Appendix I. Site interpretation would be emphasized to provide visitors with information on the historic importance of the area and to provide for scientific discovery.

In accordance with applicable regulations, BLM would encourage scientific research into cultural resources, including public participation in inventories, excavations, and scientific analyses (See Appendix M). In addition, information would be disseminated through publications, museums, and visitor centers.

2.8.4 NATIVE AMERICAN VALUES

Properties of Cultural and Religious Importance would be managed under the Traditional Use category, as defined in Appendix I. Uses that are consistent with the resource objectives for the area and that do not interfere with the sustainability of those resources would be allowed.

2.8.5 PALEONTOLOGICAL RESOURCES

Paleontological sites would be identified by site type and placed into appropriate paleontological use categories, as defined in Appendix I.

The emphasis for Alternative C would be on scientific research. Collection of common invertebrates and petrified wood would be allowed under the same terms stated for rock collection in the Recreation section, except in the Hanging Rock Petrified Forest, which would be closed to collection of petrified wood and other fossils, rocks, and minerals unless such collection is for scientific purposes and is authorized by an appropriate permit.

In accordance with applicable regulations, BLM would encourage scientific research into paleontological resources, including public participation in inventories, digs, and laboratory analyses (See Appendix M). In addition, information would be disseminated through publications, museums, and visitor centers.

2.8.6 WILDERNESS

2.8.6.1 Wilderness Areas

WP Wilderness boundaries would be signed at approximately 1-mile intervals along all boundary roads. Boundaries along other features (topography, point to point, etc.) would be signed on an as needed basis.

Wilderness Areas and the Wilderness Study Area would be designated as either Wild Emphasis or Natural Emphasis Wilderness Zones, as depicted on Map 2-43 (see Glossary). This zoning does not imply that certain Wilderness Areas or the Wilderness Study Area would not be managed in accordance with the 1964 Wilderness Act or the Interim Management Policy. Nor does it imply that certain Wilderness Areas have less wilderness character than others. Many management actions would be common to both zones.

The Wilderness Act of 1964 describes wilderness as (1) an area that retains its primeval character and influence and is primarily natural in appearance and (2) an area that is untrammeled, unmanipulated, and not intentionally controlled. These two characterizations are not always compatible. When an area is truly in a pristine condition and has been shaped solely by the forces of nature, the characteristics are compatible. But when the naturalness of an area has been affected by human influences (such as the introduction of exotic flora and fauna, the suppression of natural fires, or erosion caused by visitor use), the two characteristics may be incompatible.

Although all 10 Wilderness Areas included in this plan must be managed in accordance with the Wilderness Act of 1964, and the Wilderness Study Area must be managed in accordance with the Interim Management Policy, there could be differences among the zones that focus management

on the above-mentioned values of “naturalness” and “wildness.”

A Wild Emphasis Zone would focus on the wild, untrammeled, unmanipulated aspects of wilderness. The North Jackson Mountains, South Jackson Mountains, North Black Rock Range, and Pahute Peak Wilderness Areas would be managed as Wild Emphasis zones.

A Natural Emphasis Zone would focus on restoring natural conditions in areas that have been impacted by human use. Management in such a zone would focus on maintaining and enhancing the natural, pristine aspects of wilderness. The High Rock Lake, Calico Mountains, Black Rock Desert, High Rock Canyon, East Fork High Rock Canyon, and Little High Rock Canyon Wilderness Areas and the Lahontan Cutthroat Trout Wilderness Study Area would be managed as Natural Emphasis zones. **NW**

2.8.6.2 Wilderness Study Area Designations

Of the 10 parcels within the Lahontan Cutthroat Trout Wilderness Study Area that were acquired and inventoried for wilderness characteristics, nine parcels (947 acres) would be added to the existing Wilderness Study Area. One acquired 145-acre parcel (Unit 2) would not be designated as part of the Wilderness Study Area, to allow construction of a developed campground within the Lahontan Cutthroat Trout Area.

The existing designated routes and portions of the main Bartlett Butte BLM system road (#2052), the Summer Camp route, the Pole Creek West Road and the route into Wood Canyon would not be included in the Wilderness Study Area additions and would remain open to vehicle traffic. To exclude camping impacts from the Wilderness Study Area in Unit 1, the Wilderness Study Area boundary would be located 100 feet from the centerlines (on both sides) of the above routes in Unit 1 (see Map 2-27).

2.8.7 SPECIAL DESIGNATIONS

2.8.7.1 Areas of Critical Environmental Concern

2.8.7.1.1 High Rock Canyon ACEC

None of the High Rock Canyon area would be designated as an ACEC.

2.8.7.1.2 Soldier Meadows ACEC

None of the Soldier Meadows area would be designated as an ACEC. The unique combination of natural and cultural resources located within this area would be maintained. Management recommendations stated in the Soldier Meadows Activity Plan would be implemented consistent with the Act.

2.8.7.2 Wild and Scenic Rivers

None of the eligible stream segments would be recommended as suitable for Wild and Scenic River designation.

2.8.8 VEGETATION

Management would maintain or establish diversity mosaics and connectivity of upland communities at multiple scales across the landscape. Management would include a variety of methods to increase or decrease sagebrush overstories to meet site-specific resource objectives.

Vegetation manipulation projects would be implemented primarily to move plant communities toward desired conditions, improve structural and species diversity, and protect soil and water resources.

The frequency, distribution and ecological function of stands of mountain shrubs would be restored to stable conditions, then maintained consistent with site potential and other management objectives.

Site-specific prescriptions would be created for restoration and maintenance of individual aspen stands to achieve objectives.

On portions of rangelands that are currently dominated by monoculture stands of annual grasses, where the likelihood of restoration is high, habitat complexity and structure would be restored through seeding.

Sagebrush cover and composition would be managed to meet desired plant community objectives established for a localized area to meet Rangeland Health Standards and the objectives of the planning area.

Vegetation treatments, including prescribed fire, would be allowed in the following Natural Emphasis Wilderness Areas, consistent with the minimum tool principle:

- Black Rock Desert
- Calico
- High Rock Lake
- Little High Rock Canyon
- High Rock Canyon
- East Fork High Rock Canyon.

2.8.9 LIVESTOCK GRAZING

The Stanley Camp Pasture within the Soldier Meadows Allotment would be excluded from grazing on a regular basis. Grazing in this area might occur under an approved grazing prescription developed specifically to accomplish the objectives of the RMP.

2.8.10 WILD HORSES AND BURROS

In addition to the actions listed in the Common to All Alternatives section, a permanent facility would be constructed to support wild horse and burro management within the planning area. The facility would provide opportunities for low-cost horse gathers and adoptions by the public.

2.8.11 WILDLAND FIRE

In addition to the fire management actions described in Alternative A, fire suppression techniques would be applied for each wildland fire

situation to meet the resource objectives specified in this plan and other site-specific activity plans.

Wildland fire and prescribed fire outside of Wilderness Areas could be used to manipulate the woody and herbaceous species to meet vegetation objectives.

WP Prescribed fire could be applied in the Natural Emphasis Wilderness Areas (Black Rock Desert, Calico, High Rock Lake, Little High Rock Canyon, High Rock Canyon, and East Fork High Rock Canyon Wilderness Areas).

No prescribed fire would be applied in Wild Emphasis Wilderness Areas. **W**

2.8.12 FISH AND WILDLIFE

2.8.12.1 Fish and Wildlife Management

WP Animal damage control would be allowed in Natural Emphasis Wilderness only to protect threatened and endangered species, to prevent the transmission of disease to other wildlife or humans, and to prevent serious losses to domestic livestock. Methods of control would be those with the least impact on wilderness characteristics.

No animal damage control would be allowed in Wild Emphasis Wilderness. **W**

2.8.12.2 Fish and Wildlife Habitat

Sage-grouse habitats would be managed to retain vegetation and other attributes necessary for the long-term sustainability of sage-grouse and other sagebrush-dependent wildlife species. Management would be guided by Rangeland Health Standards, the Western Association of Fish and Wildlife Agencies guidelines, and the local plans of the Washoe-Modoc and North Central working groups. Periodic adjustments to the guidelines and to the management of sage-grouse habitats would be based on the best available information.

Best Management Practices and guidelines would be regularly evaluated and updated using the most current management solutions to solve resource and human use issues.

2.8.12.2.1 Wildlife Water Developments

Water developments within the NCA could be constructed and maintained to support wildlife populations. **WP** In Natural Emphasis Wilderness Areas, existing wildlife-related projects would be repaired, maintained, and reconstructed. Inspection of projects would be completed on a regular basis to minimize the amount of maintenance and reconstruction required. Maintenance activities would be conducted as needed and maintenance of projects in Wilderness would be conducted using methods consistent with minimum tool analysis. These methods could include access by helicopter as well as by nonmechanized means.

In Wild Emphasis Wilderness, existing water developments would not be maintained. Water developments would be removed.

In Natural Emphasis Wilderness, new water developments or other wildlife-related projects could be constructed when the project would promote healthy, viable, and more naturally distributed native wildlife populations and enhance wilderness values; was required to preserve Wilderness values; or was required to correct unnatural wildlife habitat conditions caused by human actions. Any projects constructed would be designed to minimize visual impacts.

New water developments could be constructed within Wilderness near High Rock Canyon, subject to the above requirements, to provide water for bighorn lambing that was not subject to recreation-related disturbance.

No new water developments would be constructed in the Wild Emphasis Wilderness Areas.

W

2.8.13 SPECIAL STATUS SPECIES

No additional management is identified for this alternative.

2.8.14 VISUAL RESOURCES

VRM class designations are shown on Map 2-38.

The South Playa Area and two utility corridors would be designated as VRM Class III. The remaining portions of the planning area (excluding Wilderness Areas and the Wilderness Study Area, which are Class I) would be designated VRM Class II.

2.8.15 WATER RESOURCES

No additional management is identified for this alternative.

2.8.16 LANDS AND REALTY

Two utility corridors encompassing existing utilities would be designated for buried and aboveground utilities. The first would be located two and three-quarter miles south of the Union Pacific Railroad; the second, one mile on either side of the existing Los Angeles Department of Water and Power line.

Rights-of-way for buried and aboveground facilities would be issued, consistent with meeting the objectives of the plan in the Rustic Zone, within non-playa portions of the Front Country Zone, and in the south playa portion of the planning area, in support of geothermal leasing (See Maps 2-39 and 2-43).

Land use permits would be issued consistent with the guidelines for special recreation permits, as discussed in the Recreation section.

2.8.17 MINERAL RESOURCES

2.8.17.1 Locatable Minerals Management

Subject to valid existing rights, Federal lands within the South Playa area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA, as shown on Map 2-19, would be withdrawn from location, entry, and patent under authority of the 1872 General Mining Law and other applicable laws and regulations.

2.8.17.2 Leasable Minerals Management

Subject to the terms of existing leases, Federal lands in the Lahontan Cutthroat Trout Area and vehicle access routes outside the NCA, as shown on Map 2-40, would be withdrawn from the mineral leasing laws. Federal lands in the South Playa Area would remain open only to the 1970 Geothermal Steam Act.

2.8.17.3 Salable Minerals Management

Subject to valid existing rights, Federal lands within the Lahontan Cutthroat Trout Area, as shown on Map 2-41, would be withdrawn from the Mineral Materials Act. The South Playa Area and vehicle access routes outside the NCA, as shown on Map 2-41, would remain open to development of mineral materials.

2.8.18 RECREATION

2.8.18.1 All Zones

In areas in which adverse impacts on resources or the visitor experience are occurring, limits on human activities could be set. These limits could affect areas of use, group size, duration of stay, number of people or vehicles, or types of activities (See Map 2-42). Developed campgrounds could be constructed if other management tools prove ineffective.

All facilities would be designed to be unobtrusive and aesthetically compatible with the landscape.

If monitoring indicates that there are unacceptable resource impacts on hot spring attraction areas or that public safety is unreasonably compromised by hazards, facilities such as fencing or boardwalks could be constructed around hot springs.

In areas or sites where increased visitation is causing resource damage, user conflict, or crowding at attraction areas, a permit collection system could be used to generate money for construction and maintenance of visitor facilities, enforcement of regulations, to provide information to and increase


awareness of users, and to ration use in attraction areas.

The development of privately operated campgrounds would be encouraged on public lands outside of the NCA and on private lands both inside and outside the NCA boundaries.


Collection of rocks, minerals, petrified wood, and common invertebrate fossils would be limited to 25 pounds per day plus one piece, with a maximum collection of 250 pounds per year. Collection using nonmotorized hand tools and causing minimal surface disturbance would be allowed without permit. Collection limits could be waived for scientific use when authorized by permit.

Point-to-point orienteering routes, including the National Desert Trail, could be established for hikers and equestrian users in the NCA and Natural Emphasis wilderness. In areas where monitoring determines that human use is degrading specific resources, segments of trail could be built to mitigate human-caused impacts. If conflicts among different uses occur or demand necessitates, specific times and locations could be designated for certain modes of travel, or trails could be developed to separate different user types. Designated routes that provide loops of varying degrees of difficulty for day use and multiday tours would be provided in the Rustic and Front Country Zones. A detailed map highlighting attraction areas and suitable overnight destinations would be provided at trailheads.

2.8.18.2 Wilderness Zone

 Approximately 765,000 acres would be managed for wilderness visitor experiences, as shown on Map 2-43.

Dispersed camping would be allowed throughout this zone, except within one-half mile of designated camp sites.

Limits on group size would not be applied, and overnight permits would not be required. 

2.8.18.3 Rustic Zone

As shown on Map 2-42, 313,162 acres would be managed for rustic visitor experiences.

Dispersed camping would be allowed throughout this zone, except within one-half mile of designated camp sites. Specific sites would be

designated for camping when monitoring shows that camping is causing resource impacts.

The following areas containing sensitive resources would be designated as day-use only (See Map 2-43).

- Portions of High Rock Canyon outside of Wilderness, habitat areas for rare species at Soldier Meadows
- Class A and B historic trail segments
- Rustic portions of the Lahontan Cutthroat Trout Area.

Designated camp sites would be established in areas of traditional camping use. Existing camp sites experiencing unacceptable resource impacts would be closed and restored to natural conditions. New primitive camp sites might be developed near popular sites to redistribute use to more suitable locations and to allow rehabilitation of sensitive areas. Additional developed sites would be considered in the future, as demand or resource conflicts warrant.

No limits on group size or length of stay would be required, except in accordance with existing regulations.

2.8.18.4 Front Country Zone

As shown on Map 2-43, 192,157 acres would be managed for front country visitor experiences.

Dispersed camping would be allowed on the playa. Portions of the dune and hummock areas bordering the playa, less than one-half mile from designated camp sites would be closed to camping for the protection of sensitive soils, vegetation, and critical wildlife habitat.

Designated camp sites would be established in areas of traditional camping use. Existing campsites experiencing unacceptable resource impacts would be closed and the areas restored to natural conditions. New primitive camp sites might be developed near popular sites to redistribute use to more suitable locations and to allow rehabilitation of sensitive areas. Additional developed sites would be considered in the future as demand or resource conflicts warrant.

No limits on group size or length of stay would be required, except in accordance with existing regulations.

2.8.18.5 Special Recreation Permits

A comprehensive permitting process for organized recreation events and other permitted activities would be developed, based on a classification system for events of similar scale and potential impacts. This permit process would streamline permit issuance; set standards for when permits are required; and support resource, visitor experience, and other management objectives.

Permits would be assigned to one of four classes of events (I through IV). A detailed outline of the classification system is provided in Appendix L.

- Class I events would be permitted throughout the planning area and would include no public closure areas.
- Class II events, except those requiring public closure areas, would be permitted throughout Front Country and Rustic zones. Class II events that require areas of public closure would be permitted within a designated area of the Front Country playa as shown on Map 2-44.
- Class III events would be permitted within a designated area of the Front Country shown on Map 2-44, and for tours along the emigrant trail that are compatible with the objectives for the historic trails.
- Class IV events would be permitted in areas shown on Map 2-44.

Class III and IV events could occur at any time. There would be no restrictions other than those required by the proposals themselves on the number of Class III and IV events that could occur simultaneously.

Closure of the entire playa could be permitted in conjunction with Class III and IV events. Periods of closure of the entire playa could not exceed 2 consecutive days or 48 total hours within any 30-day period.

2.8.19 PUBLIC OUTREACH AND VISITOR SERVICES

2.8.19.1 All Zones



A visitor center and administrative facility, with appropriate staffing, would be developed in or near

the NCA and managed in cooperation with tribal, state, or local partners.

Cooperative partnerships would be established with gateway communities, tribal governments, and the private sector to provide recreational support services on private land, on tribal lands, and on BLM lands inside and outside the NCA boundaries.

Academic and public research would be encouraged through outreach and agreements with organizations, schools, universities, and qualified individuals (See Appendix M).

2.8.19.2 Wilderness Zone

 No onsite outreach, interpretive, or regulatory information would be provided except when necessary to protect resources. 

2.8.19.3 Rustic Zone

Interpretive trails and self-guided tours based on maps or brochures, with minimal or no on-the-ground markers, would be developed in areas with high interpretive value and to increase awareness of sensitive resources.

Kiosks would be placed in limited locations in the Rustic Zone where monitoring indicates resource damage and at points of interest, to provide regulatory information and information about sensitive resources.

Small, unobtrusive signs with a horizontal profile would be used to interpret a wide range of resources and points of special interest.

A proactive approach would be taken to prevent resource impacts, provide interpretation, and protect public safety.

2.8.19.4 Front Country Zone

Onsite interpretive panels, public awareness programs, and kiosks would be widely available throughout the Front Country Zone.

Self-guided tours would be developed along roadways and popular trails near developed campgrounds to interpret area resources. Maps and related information would be available in front country kiosks.

A small interpretive center would be located at or near one or more of the following locations:

Stevens Camp, Soldier Meadows, Gerlach, and Flowing Wells.

Onsite interpretive panels, public awareness programs, and kiosks would be available at many locations in the Front Country Zone. Self-guided tours would be developed to interpret area resources. Maps and related information would be available at kiosks within the Front Country Zone.

2.9 ALTERNATIVES CONSIDERED BUT NOT INCLUDED

2.9.1 DESIGNATION OF ACECs FOR IMPORTANT BIOLOGICAL AND PALEONTOLOGICAL RESOURCES

A request to “develop and designate additions to Areas of Critical Environmental Concern to include special areas of biological importance, including sage-grouse leks, nesting areas, brooding areas, and winter range, Pronghorn Antelope critical summer and winter range, and of paleontological importance such as the woolly mammoth sites” was received during the scoping period. No specific areas for the designations and no special management actions were identified.

During alternative development, important seasonal habitats for wildlife species and important paleontological sites were evaluated by biologists and other resource specialists for specific management needs. Several potential ACECs were evaluated, but no special management actions were identified that went beyond the current or potential future management direction contained in the alternatives presented in this plan. In addition, discussions with the Nevada Division of Wildlife and other interested groups and individuals, conducted as part of the Resource Advisory Council NCA Subgroup, raised

concerns about potential adverse effects on sensitive resources associated with ACEC designations.

Because of the lack of specificity in the scoping request related to geographic area or special management requirements, it was concluded that the request did not meet the ACEC criteria. Therefore no additional ACECs related to biological or paleontological resources are considered in this plan.

2.9.2 DESIGNATION OF THE PROPOSED SOLDIER- COLEMAN COLLAPSING CHASM ACEC

A nomination for an ACEC of unspecified size was received from the Committee for Idaho’s High Desert. The nomination seeks an ACEC designation for a small area of gullies associated with lower Colman and Soldier Creeks near Soldier Meadows, to protect human life and safety from natural hazards. This entire area falls within the North Black Rock Range Wilderness Area. No specific special management actions were contained within the nomination; however, abusive livestock grazing was referred to in the nomination related to the hazard.

The gullies referenced in this nomination are decades old and have stabilizing riparian vegetation in the bottoms. Although there are steep, unstable banks associated with the gullies, the long-term restoration of the site would involve banks’ collapsing to allow widening of the current narrow floodplain into a broader floodplain to achieve more stable conditions. In addition, the sediment introduced by collapsing the banks would provide most of the sediment needed to raise the floodplain and water table above the current levels. Livestock use can be a factor in streambed alteration; however, implementation of livestock grazing practices in the allotment that are designed to comply with the Rangeland Health Standards and other regulations would be sufficient to allow improvement of the conditions of Soldier Meadows and Colman Creek.

After evaluation by resource specialists, it was determined that the nomination did not meet the ACEC requirement necessitating special management to meet the needs of the relevant and important resources.

2.9.3 DESIGNATION OF THE PROPOSED PRONGHORN ACEC

In 1998, the Oregon Natural Desert Association and 22 cosponsoring organizations nominated 1.1 million acres of BLM-administered lands surrounding and connecting Hart Mountain and Sheldon National Wildlife Refuges as an ACEC. Major management actions in the proposal included removing livestock grazing and wild horses and facilitating movement of pronghorn herds in the area.

Biologists and other resource specialists from state wildlife agencies in Oregon and Nevada, the U.S. Fish and Wildlife Service, and BLM offices in Lakeview and Burns in Oregon, Winnemucca in Nevada, and Cedarville in California evaluated the proposal. The evaluation concluded that the proposed area as a whole did not meet the ACEC criteria. Therefore, this proposal is not considered further in this plan. However, portions of the proposed area are associated with existing ACECs in the High Rock Canyon and Soldier Meadows areas. Those areas are considered in detail in this plan.

The complete Pronghorn ACEC proposal and the evaluation report can be viewed online at www.or.blm.gov/lakeview/planning.



*Streamside vegetation along Mahogany Creek
in one of the inventory units in the LBT WSA*

Chapter 3: Affected Environment

BUREAU OF LAND MANAGEMENT



BLACK ROCK DESERT
HIGH ROCK CANYON
EMIGRANT TRAILS

NATIONAL CONSERVATION AREA

Chapter 3: Affected Environment

The Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Act of 2000 (the Act) directed the Bureau of Land Management (BLM) to develop a Resource Management Plan (RMP) for the long-term protection and management of the conservation area by December 20, 2003. The Act was signed into law December 21, 2000, and was amended November 6, 2001. The Act revealed that the planning area contained nationally significant historic trails, an absence of development, a wilderness landscape largely unchanged since the days of the pioneers, unique Great Basin biota, as well as significant cultural, archaeological, paleontological, and geographical resources. The Act also identified grazing and special recreation permit events as valuable existing land uses to continue in conjunction with the National Conservation Area (NCA). The Act identified 797,100 acres to be included in the NCA.

This chapter describes the existing physical, biological, cultural, social, and economic characteristics of the Black Rock – High Rock Canyon NCA and planning area. The affected environment serves as the baseline of existing conditions from which the impacts of the alternatives may be analyzed. This chapter is

organized by resource and/or resource use within the planning area.

3.1 DESCRIPTION OF THE PHYSICAL ENVIRONMENT

3.1.1 PHYSIOGRAPHY

The Black Rock Desert planning area is located in northwestern Nevada and lies entirely within the Basin and Range Physiographic Province. The land is characterized by a series of north-south-trending mountain ranges and intervening valleys that were created by faulting that resulted in the horst and graben structures that form the Basin and Range Physiographic Province. The rivers of the region have no outlet to the sea; they either dry up as they cross the parched terrain or empty into playas that temporarily fill with water after heavy rain. The northern portions of the planning area are dominated by thick volcanic

flows that conceal the north-south-trending mountain ranges.

3.1.2 GEOLOGY

The region's geologic history is complex and includes cycles of sedimentation, mountain building, and igneous events. Recent geologic history includes crustal extension accompanied by volcanism and basin and range block-faulting, resulting in regional high-heat flow.

The oldest exposed rocks in the mountains of the planning area are Permian, Triassic, and Jurassic metavolcanic and metasedimentary rocks (Bonham 1969, Johnson 1977, Wilden 1964, and Stewart 1980) ranging in age from approximately 280 million years to 145 million years. These rocks occur primarily in the southern and eastern side of the planning area, in the Black Rock Range, Calico Mountains, and Jackson Mountains, where basin and range faulting has exposed them. The Black Rock Point outcrop itself is a sequence of Permian meta-andesites and interbedded volcanoclastic and fossiliferous limestone units (Howe 1975; refer to the Paleontology section for a discussion of the fossils occurring in these rocks). Minor occurrences of 140- to 70-million-year-old continental sediments, consisting of conglomerates, siltstones, and limestones outcrop in the Jackson Mountains.

Scattered areas of granitic rock occur in locations throughout the planning area. These plutons are prominent in the landscape along the southern, eastern, and western area of the planning area. They range in age from 170 million years at Pahute Peak to 88 million years in the Granite Range (Maldonado et al. 1988) and 43 million years in the Jackson Mountains.

The older rocks are in the northern part of the planning area overlain by a sequence of volcanic, volcanoclastic, and associated tuffaceous sedimentary rocks, ranging in age from 31.3 million years (Bonham 1969) to 14 million years (Noble et al. 1970) and occurring mostly in the northern part of the planning area. Volcanic rock types include basalts, andesites, dacites, rhyolitic ash-flow tuffs and flow domes, and associated pyroclastic flows. The sedimentary rocks are primarily of lake and river origin and were deposited contemporaneously

with volcanic activity. Among the youngest regional deposits are an assemblage of stream, wind, and lake deposits primarily associated with Pleistocene Lake Lahontan and its local tributaries.

The west arm of the Black Rock Desert is a down-faulted basin situated between two north-trending mountain ranges (Calico Mountains on the west, and the Black Rock Range on the east). Thermal waters flowing through faulted and fractured rocks have caused hydrothermal alteration and mineral deposition. Thermal fluids and volcanic rocks in this region tend to be high in silica, as evidenced by obsidian, agate, chalcedony, jasper, geodes, fire opal, and common opal within the planning area. The Black Rock Fault, a long, generally north-south-trending fault zone underlies the playa and extends along the western edge of the Black Rock Range. Thermal springs are located along much of its course. Northeast-trending faults have been mapped along the southern edge near the mountains in the vicinity of Trego Hot Springs.

3.1.3 CLIMATE

The arid to semi-arid climate of the Black Rock Desert results from the rain shadow effect of the Sierra Nevada Mountain Range, which lies between the Pacific Ocean and Nevada. The Sierra Nevada Mountain Range absorbs most storm-front moisture moving east across the area. Annual precipitation of the planning area varies from 5 to 7 inches at lower elevations, up to 15 inches in the mountains. Seventy percent of the precipitation occurs during late fall, winter, and spring. Summer precipitation is light and infrequent.

Average monthly temperatures vary from highs of about 40 °F in January, to 95 °F in July, and to lows of around 20 °F in December and January, to about 60 °F in July.

Prevailing wind from the west is strongest April through June. Wind gusts often reach 30 miles per hour and occasionally higher. During other seasons, the wind is light and variable, occurring when weather fronts pass through the area, or as a result of daily heating and cooling of land surfaces.

3.1.4 AIR QUALITY

Air pollution in the planning area can come from a variety of sources including on- and off-road vehicles, windblown dust, and smoke from wildfires. Pollution from these sources would result in localized increases in fugitive dust that would be temporary and would not exceed air quality standards.

The Nevada Division of Environmental Protection (NDEP) is responsible for monitoring air quality in the majority of the planning area. Washoe County is responsible for monitoring its own air quality. Washoe County is in nonattainment for carbon monoxide, PM10, and ozone; however, the only area of monitoring and/or violations is in the Reno/Tahoe Basin, which is outside of the planning area. All areas of Nevada monitored by NDEP are considered unclassifiable/attainment (Class II) for all pollutants. Air pollution from uses and activities in the planning area are mitigated by measures developed on a project-specific basis through the National Environmental Policy Act (NEPA), statutory, or regulatory processes to minimize the adverse impacts of these uses and activities on air quality.

3.1.5 SOILS

Soils in the planning area have developed on six major landforms: playa, lake plain, fan piedmonts, mountains, beach plains, and sand sheets. Each of these is discussed below.

Playa

An ephemerally flooded, barren area on a basin floor that is veneered with fine-textured sediment and acts as a temporary or the final sink for drainage water (Petersen 1981).

Lake Plain

A major landform of some bolson floors that is built of the nearly level, fine-textured, stratified, bottom sediments of a Pleistocene lake (Petersen 1981).

Fan Piedmonts

The most extensive major landform of most piedmont slopes, formed by the lateral coalescence of mountain-front alluvial fans downslope into one generally smooth slope without the transverse undulations of the semi-conical alluvial fans and by accretion of fan aprons. Fan piedmonts commonly are complexes of many landforms (Petersen 1981).

Mountain

A highland mass that rises more than 1,000 feet above its surrounding lowlands and has merely a crest or restricted summit area (relative to a plateau) (Petersen 1981).

Beach Plain

A continuous and level or undulating area formed by closely spaced successive embankments of wave-deposited beach material added more or less uniformly to a pro-grading shoreline, for example as to a growing compound spit or to a cusped foreland (Jackson 1997).

Sand Sheet.

A large, irregularly shaped, commonly thin, surficial mantle of eolian sand, lacking the discernible slip faces that are common on dunes (Jackson 1997).

3.1.5.1 Soil Orders

Soil orders found throughout the planning area consist primarily of Aridisols, Entisols, and some Mollisols. These soils are dominantly mineral soils and are highly variable in thickness, texture, rock fragment content, and morphologic and chemical properties. Elevation, geology, climate, vegetation, and landscape position have a strong influence on the distribution of soils in the region.

3.1.5.2 Aridisols

Aridisols are soils formed in dry environments that do not provide water to mesophytic plants for long periods. These soils may have one or more pedogenic horizons that may have been formed under the present climate conditions or may have been formed during former climate regimes. Aridisols are generally light colored, low in organic matter, and may have accumulations of soluble salts

and calcium carbonate. Older Aridisols typically have substantial accumulations of calcium carbonate and reddened, clay-rich argillic horizons. The properties of the older Aridisols can make them less pervious to precipitation, more likely to generate surface runoff during precipitation, and susceptible to erosion by surface runoff. Aridisols form the lake plain terraces, fan piedmonts, and lower mountain slopes.

3.1.5.3 Entisols

Entisols have little to no evidence of pedogenic horizons, primarily because these soils have formed on deposits of very young material. They typically consist of relatively unconsolidated deposits of sand and gravel. In general, Entisols are very low in organic matter. These soils are found in or along active stream washes, in areas of eolian activity, and on various parts of hillslopes.

3.1.5.4 Mollisols

Mollisols are dark-colored mineral soils, generally with a dark-colored surface horizon that is rich in organic matter. They are typically found at higher elevations. Most Mollisols are associated with grass vegetation, and some form under forest cover. They generally have well-developed horizonation that includes argillic horizons. Some Mollisols are very old or are relicts from former climate and vegetation conditions.

The landform types and soil orders discussed above contain the 18 specific soil types listed in Table 3-1.

Table 3-1. Types of Soils in the Black Rock Desert Planning Area

Soil Name	Family/Higher Taxonomic Class	Commonly Associated Vegetation Types
Playa	Playa	Barren
Sondoa-Wendane-Isolde	Deep, somewhat poorly drained soils of moderate to coarse texture, strongly saline, on moderate slopes.	Desert Sink/Saltbrush Scrub
Wendane-Humboldt	Deep, poorly drained soils of fine texture, moderately saline, on nearly level slopes.	Desert Sink Scrub
Boton-Mazuma-Juva	Very deep, well-drained soils of moderate texture on nearly level slopes.	Desert Sink Scrub
Toulon-Bluewing	Very deep, excessively drained soils of coarse texture on moderate slopes.	Saltbrush
McConnel-Dun Glen-Pumper	Very deep, well-drained soils of moderate texture on moderate slopes.	Saltbrush
Shawave-Deadyon	Very deep, well-drained soils of coarse texture on moderate slopes.	Sagebrush Scrub
Aboten-Tumtum-Oxcorel	Very shallow to very deep, well-drained soils of fine to medium texture on variable slopes.	Saltbrush
Simon-Fulstone-Welch	Very shallow to very deep, variably drained soils of fine to medium texture on moderate to steep slopes.	Sagebrush Scrub
Singatse-Grumbler-Sojur	Shallow, well-drained soils of medium texture on steep slopes.	Saltbrush
Soughe-Hoot	Shallow, well-drained soils of gravelly texture on steep slopes.	Sagebrush Scrub
Rocconda-Coppereid	Shallow, well-drained soils of fine to medium gravels on steep slopes.	Utah Juniper
Skedaddle-Rock Outcrop	Very shallow, well-drained soils and rock of coarse texture on very steep slopes.	Utah Juniper
Harcany-Longcreek-Cleavage	Shallow to very deep, well-drained soils of medium texture on steep slopes.	Sagebrush Scrub
Wylo-Bucklake-Pickup	Shallow to moderately deep, well-drained soils of medium texture on moderate to steep slopes.	Sagebrush Scrub
Devada-Tuffo	Shallow, excessively drained soils of medium texture, high in volcanic ash, on gentle to steep slopes.	Sagebrush Scrub
Badgercamp Bearbutte	Variable depth, well-drained soils of medium texture on moderate to steep slopes.	Sagebrush Scrub

Table 3-2. Associations of Landform Type and Estimated Erosion Hazards Related to Water and Wind

Landform	Erosion Hazard	
	Water	Wind
Playa/Lake Plain	Slight	Moderate
Beach Plain (lake bars)	Slight to Moderate	Slight to Moderate
Sand Sheet	Slight	High
Fan Piedmonts	Moderate	Slight
Mountains	High	Slight

3.1.5.5 Erosion Hazard for Soils

The susceptibility to erosion, or the erosion hazard, for soil throughout the planning area varies with geology, parent material, elevation, slope, aspect, vegetation cover, local microclimate, land use, and landscape history. The history and evolution of the landscape and the geomorphic processes occurring in the landscape dictate to a large degree the distribution of ages and types of soils throughout the area.

An assessment of the erosion hazard for soil types in the planning area is shown in Maps 3-1 and 3-2 and Table 3-2. The principal agents that affect soil erosion in the region are primarily water on slopes and wind on the valley floors and slopes, although it is recognized that water associated with ephemeral playa lakes can have an erosional impact on soils (see Table 3-2).

3.1.5.5.1 *Soil Erosion Related to Landform Type*

The general erosion hazard classes mentioned above can be grouped within broad classes of landforms. This provides an additional means to assess the potential for erosion. The landforms associated with erosion hazards shown in Table 3-2 represent the major landform types found in the region.

3.2 TRANSPORTATION AND OFF-HIGHWAY VEHICLES

3.2.1 TRANSPORTATION

A total of 877 miles of a combination of roads and routes exist in the Black Rock-High Rock planning area (see Map 3-3). BLM system roads, non-BLM roads, and designated routes within the planning area provide access for resource specialists, recreationists, ranchers, and other resource users. Of the BLM system roads, approximately 122 miles of road are Level 2 maintenance class, 9 miles (Steven's Camp Road) are Level 3, and 2 miles are Level 4 (High Road, RD 2048). There are also 70 miles of county roads within the planning area. The remaining 674 miles of routes are unmaintained. The only system roads substantially meeting BLM system road requirements are the Steven's Camp Road and the High Road (RD 2048). Some segments of system roads, including Donnelly Creek Road, are effectively closed because of poor conditions.

There are no paved roads in the planning area. Most roads and routes in the planning area are poorly constructed and not graveled, which can affect ease of access and safety. These routes are susceptible to seasonal closure because of weather. Use of these roads during wet seasons can cause resource damage, vehicle breakdowns, and can affect visitor safety. Increased levels of visitor use in the planning area would trigger the need to improve roads and upgrade maintenance levels.

There is one newly constructed year-round access to the playa approximately 8 miles north of Gerlach. Other access to the playa is provided by open access from the highway and may be subject to seasonal closure because of weather or wet conditions. The playa has three permanent trunk roads or trackways that are essentially two-track roads. These are permanent, because they are extremely compacted and sunken because of

cumulative vehicle use. These playa trunk roads link 5 of at least 21 major access points. The state and counties maintain non-BLM roads near and within the planning area. Humboldt and Washoe counties provide yearly maintenance on county roads in the area. Pershing County provides intermittent maintenance on its county roads as needed.

A public map of system roads and designated routes in the planning area does not currently exist.

3.2.2 OFF-HIGHWAY VEHICLE DESIGNATIONS

As many as 62 percent of visitors to the planning area bring off-highway vehicles (OHV) for recreational experiences. A very small number of these four-wheel-drive vehicles travel cross-country within the planning area. Visitor use data indicates that most four-wheel-drive vehicles are operated on the playa and the existing roads. There are, however, some areas sensitive to vehicle use, a few of which are exhibiting signs of degradation.

Wilderness Areas are closed to OHV use; the Wilderness Study Area and the High Rock Canyon corridor are limited to existing roads and trails, and the remainder of the planning area is open. However, the Act mandates that the RMP inventory and designate a transportation system and provide appropriate signage. Discretionary closures are made in emergency situations, such as imminent resource damage.

3.3 CULTURAL RESOURCES, INCLUDING EMIGRANT TRAILS

The following information is summarized from several sources including Smith et al. (1983), McGuckian Jones (1980), Layton (1970) and Lohse (1981) as well as the High Rock Cultural Resource Management Plan and the Cowhead-Massacre RMP/Final Environmental Impact Statement. These documents should be consulted for more comprehensive information.

3.3.1 PREHISTORIC

3.3.1.1 Archaeology

Numerous prehistoric archaeological sites with widely varying degrees of complexity, size, location, and densities have been identified within the planning area. These include rock shelters, occupation sites (with probable buried deposits), temporary camps, petroglyphs and pictographs, hunting blinds, quarries, and lithic scatters to name a few.

Evidence indicates that human occupation of the Black Rock Desert dates back as far as 12,000 years ago. Although little archaeological research has been conducted in the region in the last 20–30 years, archaeologists have used available data to describe the archaeology of the region. The method used has been to divide the past into various “phases.” These phases are based on the age of the sites and the tool types found. Phases are named after major sites dating to the time periods of the phase. These phases do not necessarily represent changes in the cultural groups occupying an area but are reflections of environmental change, survival strategies, and tool types. The phases described below are based on the work of Layton (1970).

The earliest phase present in the planning area is referred to as the Earliest Times and is believed to be more than 10,000 years old. The key artifact type associated with this time period is the distinctive Clovis fluted projectile point. Clovis points found in the study area have all been surface finds, but Pleistocene megafauna (such as woolly mammoth and bison) have also been found. Researchers generally believe that Clovis-age people relied heavily on hunting and may have specialized in hunting large game. The potential to associate the extinct megafauna with human activity has generated considerable scientific interest in the area.

The next oldest phase is called the Parman, dating from 8,000 to 10,000 years ago. Diagnostic artifacts associated with this phase include Stemmed series projectile points and crescents. There appears to have been an increasing use of the area, and a possible population increase during this time. Many of the Pleistocene lakes were evaporating and turning into shallow lakes and marshes. Marshes, which are extremely productive in terms of plant and animal foods, would have been major attractions to prehistoric hunger-gatherers. This phase is also often referred to as the Western Pluvial Lakes Tradition. The relationship between the earlier Clovis population and the Parman phase occupation is of interest to archaeologists and anthropologists.

The Parman phase is followed by the Calico phase, dating from 8,000 to 7,000 years ago. This phase is characterized by continued warming and drying, which continued to shrink lakes and marshes. Stemmed points are replaced with Humboldt series projectile points. There is less reliance on marsh-based resources, and the areas exploited are increased to include upland areas. Layton believes the Calico phase is transitory between the Western Pluvial Lakes Tradition and the later Desert traditions.

There was an apparent abandonment of the area from about 7,000 to 6,000 years ago. This abandonment is inferred from a lack of sites and artifacts that can be dated to this time period. The abandonment is believed to be a result of the continued warming and drying, first seen in the Parman phase, finally culminating in arid conditions so severe that human activity could not be supported.

The Silent Snake phase, 6,000 to 3,500 years ago, represents the reoccupation of the study area. Humboldt series projectile points are still found, but Pinto and Northern side-notched projectile points are introduced. Stone grinding implements become relatively common, indicating exploitation of plant foods requiring processing. The population during this time is believed to be low, because environmental conditions were still severe.

Following the Silent Snake phase is the Smoky Creek phase, 3,500 to 1,500 years ago. The weather begins a cooler and more moist trend, recreating some of the marsh and shallow lakes seen during the Calico phase. This in turn increases the amount of available resources and attracts human reoccupation. Elko series projectile points are introduced early in this phase, with the bow and arrow arriving later and indicated by Rosegate series projectile points. Grinding stones are a common component of the Smoky Creek phase sites.

An 800-year period of near abandonment of the area follows the Smoky Creek phase. This abandonment is inferred from a lack of sites and artifacts that can be dated to this time period. The abandonment is believed to be a result of a series of severe droughts forcing populations to relocate to areas with more moisture. Some of the population shift from the High Rock area appears to have been to the Surprise Valley.

The Hanging Rock phase follows the period of near abandonment, and dates from about 700 years ago to the arrival of Euroamericans in the planning area in A.D. 1843. This phase is characterized by the occupation of the area by the protohistoric Northern Paiute. See the ethnography section below for a more detailed description of Paiute lifeways.

The final phase in Layton's series is the Last Supper phase, which runs from A.D. 1843 to circa A.D. 1920. This period involves the mass migration of Euroamericans through the project area and the eventual settlement of the region by ranchers. This resulted in the total disruption of traditional Northern Paiute lifeways through destruction of Native American food sources, the introduction of disease, and armed conflict. It eventually resulted in the restriction of the majority of the surviving Native Americans to reservations, rancherias, or colonies on the outskirts of Euroamerican settlements. The few Native

Americans attempting a more-or-less traditional lifeway were often forced to rustle livestock to survive. Cattle rustling was the cause of the last armed conflict between Euroamericans and Native Americans in 1911, which resulted in the deaths of four Euroamericans and eight Bannocks.

The closest reservation to the planning area is the Summit Lake Paiute Reservation, located at Summit Lake, adjoining the northern boundary of the area. The reservation was established in 1913 and consists of approximately 11,000 acres. Pyramid Lake Reservation, established in 1874, is approximately 20 miles south of the planning area. Other rancherias, reservations, and colonies near the planning area include the Cedarville Rancheria, Ft. Bidwell, the Lovelock and Winnemucca Colonies, and Fort McDermitt Reservation.

3.3.2 HISTORIC

3.3.2.1 Emigrant Trails

Historic events within the planning area helped to mold and change the course of American history on a national scale. Captain John C. Fremont and Kit Carson, on their 1843–44 exploring expedition, traveled south through the planning area passing through High Rock Canyon, Fly Canyon, Soldier Meadow, and the Black Rock Desert. Possibly using information from Captain Fremont, a group of 15 men from Oregon, including Jesse Applegate, Lindsay Applegate, and Levi Scott, opened the Applegate Trail in 1846 as a southern road into Oregon. Peter Lassen followed the Applegate Trail across the Black Rock Desert and through High Rock Canyon to Goose Lake in 1848, then turned south and west to his ranch in present-day Vina, California. This resulted in the subsequent identification of the Applegate Trail through the planning area as the "Applegate-Lassen Trail." The following year, the route was erroneously thought to be a shortcut to the gold fields of California and perhaps as many as a third or half of the gold seekers (7,000 to 10,000 people) followed the route. After that heavy use in 1849, the trail again reverted to a route for migration to Oregon, although it also carried gold seekers to gold fields in Yreka, California.

In addition to the Fremont and Applegate-Lassen routes, two cutoffs from the Applegate-Lassen Trail also traversed the Black Rock Desert. These were the 1852 and 1856 Nobles Routes. These routes reduced the length of the journey to California. Portions of the Applegate-Lassen Trail and 1856 Nobles Route were later used as freight routes. No physical traces of the Fremont expedition remain, but the route is well documented. Most of the Applegate-Lassen Trail in the planning area is currently used by four-wheel drive vehicles and has assumed the character of "two-track" routes. In some places, the trail segments have been graded. Some unaltered trail remnants are still visible as are emigrant writings in Fly and High Rock Canyons. Some segments of the 1856 Nobles Route have also become modern vehicular routes.

Emigrant campsites and other historic sites along the Applegate-Lassen Trail within the planning area include Antelope Springs, Rabbithole Springs, Black Rock Hot Springs, Double Hot Springs, Mud Meadows, Post Office Cave, Stevens Camp, Massacre Ranch, Emigrant Springs. The Fly Canyon Wagon Slide, where the emigrants descended a steep precipice, and various rock formations and other natural features described in emigrant diaries are also important features of this trail. Noteworthy sites along the Fremont Route within the NCA planning area include High Rock Canyon, Mud Meadows, and Black Rock Springs. Notable sites along the Nobles Route in the planning area include Rabbithole Springs, Black Rock Springs, and Trego Hot Spring. Great Boiling Springs (near Gerlach) and Granite Creek (north of Gerlach) were also stops along the 1852 and 1856 Nobles Routes. Both of these sites are on private land just outside the planning area.

Between 1859 and 1860, the 1856 Nobles Route was improved by F.W. Landers as part of the Honey Lake Wagon Road development project. Landers and his crew mapped the route and developed the road. They also dug out and expanded several springs, including Rabbithole Springs Trego Hot Spring.

Portions of the Honey Lake Wagon Road were also incorporated into the 1862 Idaho Wagon Route, which went from Chico, California, to Ruby City, Idaho. This route followed the Nobles Route to Granite Creek and then went north through Soldier Meadow enroute to Idaho. The Honey

Lake Wagon Road and the Idaho Wagon Route received heavy use during the mining boom in Idaho in the 1860s, including freight wagons and a weekly saddle-train carrying mail and passengers. Also along the Honey Lake Wagon Road were connections, following the Nobles Route, leading to the Humboldt Range boomtowns active in the 1860s and 1870s. During the 1860s, Granite Creek functioned as a stage station for these routes. Completion of the Central Pacific Railroad as far east as the "Big Bend" of the Humboldt River in 1867 caused use of the Black Rock wagon routes to drop off dramatically.

In 1992, Congress designated the California Trail as a national historic trail. Two emigrant trails in the planning area (Applegate-Lassen Trail and the Nobles Route) are part of the California Trail and are included in this congressional designation. The National Park Service has prepared a Comprehensive Management and Use Plan/Final Environmental Impact Statement for the Oregon, California, Mormon Pioneer, and Pony Express National Historic Trails (USDI/NPS 1999). This plan includes management recommendations for the Applegate-Lassen Trail and Nobles Route.

The portion of the Applegate-Lassen Trail that passes through the planning area is the longest existing segment of emigrant trail where the public can travel surrounded by virtually the same vistas witnessed by the gold seekers in 1849. In recent years, two wagon trains have traveled along the trail, reenacting the historic journey. It is anticipated that this use would continue in the future. Numerous other groups and individuals have hiked, ridden, and/or driven portions of the trail. The BLM has made available to the public maps of the trail route and other historical information on the trail. Near the Pahute Peak in the Black Rock Range a marker has been erected at the Lassen-Clapper murder site where Peter Lassen and his companion, Edward Clapper, were murdered in 1859 while searching for the lost Hardin silver ledge (discussed in Section 3.3.1.3.4). In addition, Trails West and the Oregon-California Trails Association have marked important points along the Applegate-Lassen and Nobles Routes.

A 1-mile corridor centered on the Applegate-Lassen Trail was listed on the National Register of Historic Places on December 18, 1978.

3.3.2.2 Military Activity

Following the Civil War, the United States created many military outposts in the West to absorb the standing army and protect mail and freight routes in an expanding country. An outpost of Camp McGarry at present-day Soldier Meadows Ranch and Camp McKee at Granite Creek (both located on private land) were two such military establishments. Several of the buildings from the old outpost at Soldier Meadows are still standing and have been incorporated into the present-day Soldier Meadows Ranch. Camp McKee was basically a tent city, but two major stone foundations still remain at the Camp McKee/Granite Creek Station site.

During World War II and into the 1950s, the Black Rock Desert served as a gunnery range for the military. Old military bullets and shell casings can still be found.

3.3.2.3 Homesteading/Ranching

By the 1870s, huge numbers of cattle, and later sheep, were driven throughout the region, and large ranches were established in and near the NCA. These include Miller and Lux and the Gerlach Land and Cattle Company. Gerlach, Nevada, was established in 1906 and named after Louis Gerlach, founder of the Gerlach Land and Cattle Company (Carlson 1974).

Homesteaders followed the development of these ranches. Some tried to farm low lands, and others were agents for large ranching operations. Their traces remain as wood and stone houses, foundations, irrigation systems, and fences scattered throughout the planning area. Some of these are still in use by current ranching operations.

3.3.2.4 Mining

Historic mining features are another type of cultural resource in the planning area. The earliest known prospecting by nonnatives in the planning area occurred in 1849 when James Hardin, a member of a wagon train passing along the Applegate-Lassen Trail, collected ore samples that he believed to be lead, from the nearby Black Rock Range. Years later he had the ore assayed and found it to be high in silver content. In 1858, he

and a party of men tried unsuccessfully to relocate the lost silver source. Hardin City was built in the area in 1866 when it appeared that a silver ledge had been located. Prospectors had found waxy black clay that bears some similarity to hornsilver (a silver chloride ore of silver) at first glance. A dishonest assayer running a scam asserted that he could extract silver from this material using a secret fluxing agent. This “discovery” created much excitement and mills were brought in to process the “ore”. The assayer and his secret fluxing agent soon disappeared, and the town site was totally abandoned by the summer of 1868 (Raymond 1869). Foundations of the small settlement of Hardin City still remain.

Since these early mining attempts, prospecting for silver, gold, uranium, opals, sulphur, antimony, tungsten, gypsum, petroleum, and nitrates has taken place in the planning area. The remnants of these endeavors are prospects, shafts, adits, mining equipment, mining claim markers, small structures, and foundations. Several other towns in and near the planning area, such as Sulphur, Rosebud, and Scossa, were established. Some of these mining ventures remain active to this day, including Empire. Empire, just south of the planning area, was settled in 1922. The Pacific Portland Cement Company built the town for employees who worked in the nearby gypsum mine.

3.3.2.5 Railroad

During 1909, the Western Pacific Railroad built a transcontinental line along the southern edge of the Black Rock Desert. Gerlach and Sulphur were depots along this route. Additional sidings within the planning area were established at Trego and Cholona. The first U.S. transcontinental telephone line also followed this route.

3.4 NATIVE AMERICAN VALUES

3.4.1 ETHNOGRAPHY

The planning area is within the area traditionally used by the Northern Paiute or Paviotso. The northern portion of the management area falls within the area identified as being used by the Agaipaninadokado (fish lake eaters), Moadokado (wild onion eaters) of Summit Lake, and the Gidutidad (groundhog eaters) of Surprise Valley. The southern portion lies within the area traditionally used by the Kamodokado (jack rabbit eaters) of Gerlach, Nevada. The Kamodokado area reportedly included the territory that others did not claim. The area of the Sawadokado (sagebrush mountain dwellers) of Winnemucca also extended into the southwest portion of the area. Paiutes from other areas likely passed through the planning area on their way to fish at Summit Lake or to hunt.

The Northern Paiute were hunting-gathering bands that generally traveled seasonal rounds in small family groups subsisting on a variety of plant foods, insects, small game, and fish. Game animals available to Native Americans in the planning area included antelope, rabbits, bighorn sheep, mule deer, and a variety of small mammals, reptiles, and birds. Lahontan cutthroat trout was procured at nearby Summit Lake. Lahontan cutthroat trout, as well as cui ui (a large plankton-feeding fish that occurs only at Pyramid Lake), were also available at Pyramid Lake south of the Black Rock Desert planning area. Antelope and rabbits were often hunted communally. Seeds and roots were the primary plant foods gathered. Plant and animal products were also used for clothing, shelter, and other functional and ceremonial articles. Medicinal plants were used for healing purposes. Lithic sources provided materials for tool manufacture. Some minerals were also used medicinally and ceremonially. A more complete summary of the plants and animals used by the Northern Paiute that occur in and near the management area, as well as

other ethnographic information, is provided in Lohse (1981).

3.5 PALEONTOLOGICAL RESOURCES

No systematic field survey has been conducted for paleontological resources in the planning area. However, independent researchers in and near the planning area have identified numerous paleontological localities. Two mammoths were excavated from the Black Rock Desert, and a Miocene gomphothere was excavated near Rabbithole. To prepare for a unit resource analysis, the BLM contracted paleontologist David Lawler (Lawler 1978, Lawler and Roney 1978) to review the literature, summarize previously known paleontological resources, and analyze the potential for unknown resources.

Until recently, the earliest paleontological resources documented in the proposed management area were mammalian fossils found in the High Rock Canyon area. These were recovered from a late Miocene rock unit termed the High Rock sequence (Bonham 1969). This sequence contains mammalian and plant remains of the Barstovian (late Miocene) age.

Also occurring in the northern portion of the planning area are widespread occurrences of petrified wood. Some of the most impressive, which have been identified as Sequoia, are in the George W. Lund Petrified Forest (just outside the planning area's west boundary).

More recently, Miocene flora *Monocotyledonae* (reeds) and *Dicotyledonae* (seeds and twig) and fauna have been documented in the south portion of the management area also. *Gastropods* (fresh water snails), *Osteichthyles* (fish), *Clemyes* (turtle), *cf. Volpes* (dog family), *Dipoides* and *cf. Eucastor* (beaver), *coprolites*, *Lagamorpha* (rabbit), *Camelidae* (camel), *Hipparian* (horse), and *Gomphotheriidae* (elephant like) were documented near the southern boundary (Hilton 1991).

Invertebrate paleontology includes some of the most recent and oldest specimens. Quaternary ostracods (a micro-invertebrate) occur in the relict

lakebed of Lake Lahontan, of which the Black Rock Playa is a part (Lawler 1978).

Tertiary sedimentary rocks occur in the north end of the Calico Range, south of High Rock Lake. Most of the range consists of volcanic rocks; other sedimentary rocks likely occur within the range in areas not mapped in detail. A similar situation exists in the Black Rock Range. Tertiary sedimentary rocks occurring in the northern end of the range just east of the planning area boundary contain Miocene fossil leaves (Bunn, 1998).

Field reconnaissance of sedimentary units in both ranges could reveal other localities of mid-Miocene to Pliocene freshwater invertebrate, megafauna, and plant remains. These sites surround the Black Rock planning area and are in the Tertiary sedimentary units that also occur in the Calico Mountains and Black Rock Range. There is potential for similar material to be found in the planning area boundary.

Also found in the planning area are two occurrences of Permian volcanic rocks, containing interbedded sedimentary material identified as the Happy Creek Group (Willden 1964: 34-36). In the Jackson Mountains, documented Permian fusulinids occur at the lower portion of a unit directly overlying the Happy Creek Group.

Important occurrences of documented Miocene/Pliocene- and Quaternary-age paleontological sites are around and near the planning area boundary. These sites represent plant and animal communities living in the Black Rock area prior to and during the existence of Lake Lahontan. A portion of the relict lakebed of Lake Lahontan now forms the Black Rock playa. The potential, however, for the occurrence of preserved megafauna fossils in the portion of the playa corresponding to the Front Country zone of the planning area is quite low. If such fossils are present, they are likely to be buried very deep.

The planning area also includes several sources of paleoenvironmental information. These include fossil pollen localities, ancient woodrat middens, Quaternary sedimentary records, and shoreline features/deposits related to pluvial Lake Lahontan history. Woodrat middens are found in dry caves and on cliff faces and are preserved by woodrat urine. Volcanic ashes are also important stratigraphic and chronological markers. Trego Hot Springs and Double Hot Springs contain two such important volcanic ash layers. Another volcanic

ash (Wono) found east of Black Rock Springs dates to 28,000 years ago. Streams also have the potential to yield valuable information on changing stream flow and erosion through time. Information on fluctuations of Pleistocene Lake Lahontan is provided in wave-cut terraces, gravel bars, beaches, and tufa deposits (Wigand 1998).

No paleontological resources in the proposed management area qualify for special designations such as registry with the U.S. Geological Survey, national historical landmarks, or National Park Service national natural landmarks.

3.6 WILDERNESS

3.6.1 WILDERNESS AREAS

There are 10 Wilderness Areas within the planning area (Map 3-4). They are listed in Table 3-3.

**Table 3-3. Wilderness Areas
Within the Planning Area**

Wilderness Name	Wilderness Name
Black Rock Desert (314,829 acres)	Little High Rock Canyon (48,353 acres)
Pahute Peak (56,890 acres)	High Rock Canyon (46,463 acres)
North Black Rock Range (30,646 acres)	Calico Mountains (64,983 acres)
East Fork High Rock Canyon (52,616 acres)	South Jackson Mountains (54,534 acres)
High Rock Lake (59,093 acres)	North Jackson Mountains (23,437 acres)

These areas were designated as Wilderness Study Areas in 1980 and were managed on an interim basis to preserve their wilderness values prior to the Act. The 10 Wilderness Areas contain nearly 752,000 acres that became designated wilderness in the Act. Of that amount, 378,329 acres of wilderness are located within the NCA boundary, and the remaining 373,515 acres are located outside the NCA, but within the planning area.

Congress has legislated 33 vehicle access routes that dead-end inside the boundaries of the 10 Wilderness Areas. Seven of these were created in the NCA Act of December 21, 2000, and 26 were added by passage of the technical amendment to the Act of November 6, 2001. These vehicle access route corridors (100 feet on either side of the routes' centerlines) are not part of any designated wilderness.

These areas frame the NCA serving to protect the integrity of the viewshed of the historic emigrant trails. Wilderness is an area affected primarily by the forces of nature; a human's imprint

is mostly unnoticeable, and a human is a visitor who does not remain. Wilderness Areas may contain ecological, geological, or other features of scientific, educational, scenic, or historic value. Many of these values are present in the new Wilderness Areas. The rugged terrain, large size, and undeveloped nature of these areas offers a natural, primitive, solitary experience. The emigrant trails and the surrounding area look much the same as they did more than 100 years ago when the pioneers made their way to California.

Current wilderness management includes signage for boundaries and vehicle access routes, restoration of closed routes, and vegetation management. There are currently 13 inholdings in the Wilderness Areas, 4 of which have motorized vehicle access. Inholdings are not considered part of Wilderness Areas because they are not federally administered lands. Condition of and access to the inholdings are addressed under Access and Rights of Way alternatives. Detailed descriptions of the nature, condition, and features of each of the Wilderness Areas are included in the 1987 Winnemucca Wilderness Recommendations Final Environmental Impact Study (EIS) and the 1987 Eagle Lake-Cedarville Wilderness Recommendations Study Areas Final EIS. Both studies are available through the Winnemucca or Surprise Field Offices. Although the condition of the Wilderness Areas remains largely the same as at the time of these recommendations as a result of the interim management policy, several changes have occurred. New vehicle ways have been developed by illegal OHV use within the areas, and 14 small game guzzlers have been constructed.

3.6.2 WILDERNESS STUDY AREA

The planning area contains one Wilderness Study Area. The Lahontan cutthroat trout Wilderness Study Area is located in the northern portion of the planning area and was designated, and continues to be managed, as a Wilderness Study Area.

The Mahogany Creek Watershed area was designated as the Lahontan Cutthroat Trout Natural Area in 1974 to protect the genetically pure strain of Lahontan cutthroat trout that use the area's

creeks for spawning. In 1976 the Lahontan Cutthroat Natural Area became a Wilderness Study Area with the passage of Federal Land Policy and Management Act. At the time of designation as a Wilderness Study Area, approximately 1,256 acres of non-federal land existed inside the Lahontan cutthroat trout-Wilderness Study Area. Since that time BLM has acquired approximately 1,092 of those non-Federal acres, in 10 separate parcels. BLM has conducted a wilderness inventory on those 10 acquired parcels to determine if wilderness characteristics are present (Table 3-4).

Two inholdings exist in the Lahontan cutthroat trout-Wilderness Study Area.

3.6.2.1 Summary of Findings

Table 3-4. Wilderness Study Area Unit Inventory

Unit Number	Acres Inventoried	Wilderness Character Present?
1	200	Yes
2	145	Yes
3	94	Yes
4	97	Yes
5	50	Yes
6	135	Yes
7	86	Yes
8	245	Yes
9	10	Yes
10	30	Yes
Total	1,092	

See Map 2-27 for Wilderness Inventory Units

3.6.2.1.1 Unit Descriptions

The topography and vegetation of the units vary from dry, sagebrush dominated, ridgelines and mesa tops to lush riparian areas in the canyon bottoms. Large stands of aspen and willow are found throughout the units with most of the aspen occurring in the canyon bottoms or around spring and seep areas. Mountain mahogany, serviceberry, and other mountain shrubs are found throughout the upland sections of the units. Compared to the surrounding area, water is very abundant in the inventory units.

Units 1, 2, 3, 4, 6, 7, and 8 contain portions of well-watered canyon bottoms and extensive aspen stands, as well as upland sites. Unit 5 consists

entirely of uplands with several small aspen stands. Units 9 and 10 consist of high rocky ridges and bowls with some relatively flat mesa topography in part of Unit 10.

3.6.2.1.2 Naturalness

Units 1 through 7 all contain portions of existing “ways” or fence lines but are still essentially natural in appearance. Units 8, 9, and 10 are free of any existing structures and are completely natural in appearance. See Table 3-5 for details.

Table 3-5. Wilderness Study Area Unit Fences and Ways

Unit Number	Length of Fencing (miles)	Length of “Ways” (miles)
1	0.4	0.5
2	0.6	1.0
3	0	0.47
4	0.4	0.5
5	0.3	0
6	0	0.1
7	0.3	0

One of the ways in Unit 1 serves as the main access into the Wilderness Study Area; the other sees very little use and has started to naturally rehabilitate. In Unit 2, one of the ways serves as the main access route into the Wilderness Study Area; the other two provide access into Summer Camp Canyon and Idaho Canyon. The way in Unit 3 provides access into Summer Camp Canyon. Unit 4 contains two ways, one of which serves as the main access into Summer Camp Canyon; the other follows the fence line and sees very little use. The way in Unit 6 also contains a small part of the Summer Camp Canyon access.

3.6.2.1.3 Solitude

Because of the small size of the inventory units, they would not offer outstanding opportunities for solitude by themselves, but when considered as part of the existing Wilderness Study Area, they would offer some degree of solitude. Portions of all the units (except 9 and 10) contain thick stands of aspen, which provide vegetative

screening from other visitors and enhance the feeling of solitude.

3.6.2.1.4 Primitive and Unconfined Recreation

Because of the small size of the units, they would probably not offer outstanding opportunities for primitive or unconfined recreation by themselves, but when viewed as part of the existing Wilderness Study Area, they would all provide outstanding opportunities for dispersed camping, hiking, horsepacking, hunting, nature study, and even cross-country skiing in good snow years.

3.6.2.2 Supplemental Values

Units 1, 2, 3, 4, 6, 7, and 8 all contain essential habitat for the endangered Lahontan cutthroat trout. Additional supplemental values in the units include an abundance of water, large stands of aspen trees, highly scenic vistas, and a concentration of historic Basque “arbor glyphs.”

3.7 SPECIAL DESIGNATIONS

3.7.1 AREAS OF CRITICAL ENVIRONMENTAL CONCERN

High Rock Canyon is a 24,006 acre Area of Critical Environmental Concern (ACEC) with a seasonal closure from February 15 through March 31 for the protection of nesting raptors. The ACEC also protects the primitive character of the area, significant cultural resources, wildlife habitat, and significant riparian areas.

Soldier Meadows is a 307-acre ACEC designed to protect the habitat of the desert dace and populations of basalt cinquefoil. The ACEC protects portions of the areas important for these two species but not the full extent of the species' occupied habitat within the planning area.

3.7.2 WILD AND SCENIC RIVERS

All streams within the planning area that met initial criteria for consideration were evaluated for wild and scenic river eligibility and suitability.

Through the inventory process (See Appendix J), stream segments listed in Table 3-6 were found eligible for Wild and Scenic River designation for the reasons listed in the table.

Following eligibility, a suitability recommendation must also be made for each of the eligible segments. The suitability recommendations for each stream segment are found in the Chapter 2, Alternatives section of this plan. If any stream segments are recommended as suitable, they must be managed to preserve the free-flowing and outstandingly remarkable values for which they were found eligible.

Table 3-6. Study Stream Segments Found Eligible

Segment Name	Segment Description and Approximate Length of Segment	Outstandingly Remarkable Values	Tentative Classification (Recreational, Scenic, Wild)
High Rock Canyon Creek	21 miles of the stream from its headwaters in Upper High Rock Canyon to the private property boundary near High Rock Lake.	Scenic Geologic Historic Prehistoric	All Scenic
Mahogany Creek (High Rock Tributary)	4 miles of the stream from where the stream crosses the southern boundary of the High Rock Canyon Wilderness to its confluence with High Rock Canyon Creek.	Scenic Geologic Historic Prehistoric	All Wild
East Fork High Rock Canyon Creek	5.8 miles from where the stream starts entering the canyon below Bernard's Corral to its confluence with High Rock Canyon Creek.	Scenic Geologic Historic Recreation	All Wild
Little High Rock Canyon Creek	6 miles of the stream from the private property boundary at the head of the canyon to the private property boundary at the mouth of the canyon.	Scenic Geologic Historic Prehistoric	All Wild
Fly Canyon Creek	4 miles from where the stream enters Fly Canyon north of High Rock Lake to the private property boundary east of the High Rock Lake Wilderness boundary.	Scenic Geologic Historic	All Wild
Donnelly Creek	7.2 miles from the stream's headwaters east of Division Peak to the private property boundary near the Soldier Meadows Road.	Fish	6.2 miles Wild 1 mile Scenic (1/2 mile upstream and downstream from the road crossing)
Colman Creek	10 miles from the stream's headwaters to its confluence with Soldier Creek.	Fish Scenery	All Wild

Table 3-6. Study Stream Segments Found Eligible (cont'd)

Segment Name	Segment Description and Approximate Length of Segment	Outstandingly Remarkable Values	Tentative Classification (Recreational, Scenic, Wild)
Snow Creek	3 miles from the stream's headwaters to the Summit Lake Reservation boundary.	Fish	2 miles Wild 1 mile Scenic (1/2 mile upstream and downstream from the road crossing)
North Fork of Battle Creek	2.5 miles from the stream's headwaters to the wilderness boundary (excluding the segments in the two private parcels).	Fish Scenery	All Wild
Mahogany Creek (WSA)	6 miles from the stream's headwaters to the Summit Lake Reservation boundary.	Fish Scenery	4 miles Wild 2 miles Scenic
Summer Camp Creek	3.6 miles from the stream's headwaters to the confluence with Mahogany Creek (Excluding the segments in the private parcels).	Fish Scenery	2 miles Scenic 1.6 miles Wild
Clapper Creek	3 miles from the stream's headwaters to where it leaves the canyon and flows through the alluvial fan.	Historic	1 mile Scenic 2 miles Wild
Happy Creek	7 miles from the stream's headwaters to the wilderness boundary. All headwaters of Happy Creek are included.	Fish	2.5 miles Scenic 4.5 miles Wild
Mary Sloan Creek	3.7 miles from the private property boundary on the upper section of stream to the wilderness boundary.	Fish	All Wild
Soldier Meadows Hot Spring Creek	1.5 miles from the headwaters to the private property boundary.	Fish Recreational Other (Plants) Historic Prehistoric	1.5 miles Scenic
Quinn River	49 miles from the northern boundary of the Black Rock Desert wilderness to the western arm of the playa.	Recreational Prehistoric Other (Paleontological)	42 miles Wild 7 miles Scenic

3.8 VEGETATION

Distribution of vegetation types within the planning area can be attributed primarily to a combination of climate, soils, and topography. Water availability and soil composition are particularly important. Altitude changes between valley floors and plateau tops also affect vegetation; saline and alkaline soils greatly influence plant growth. The following section describes the vegetation resource within the planning area, as shown on Map 3-11, and its current biological/physical condition under existing management.

The planning area supports vegetation typical of the Great Basin. The extremes of climate, elevation, exposure, and soil type all combine to produce a diverse growth environment for a wide variety of plants. The primary plant communities of the planning area are desert sink scrub, saltbush scrub, sagebrush scrub, Utah juniper woodland, and subalpine woodland. Secondary plant communities include broadleaf riparian scrub, dune, and meadow.

Approximately 25 percent of the planning area is the playa, which is barren except for isolated occurrences of vegetation. Salt-tolerant shrubs such as greasewood grow in edge-area dunes, mounds, and sand sheets. The deep soils along lower slopes (3,800 to 4,200 feet) on the flats adjacent to the playa support sagebrush and black-greasewood. Shadscale, bud sagebrush, and Bailey greasewood dominate the alluvial fans at elevations of 4,200 to 5,000 feet. Big sagebrush types dominate mountain sites up to about 5,500 feet. Mountain big sagebrush, low sagebrush, bitterbrush, mountain mahogany, and aspen are found at elevations above 5,500 feet.

3.8.1 PRIMARY PLANT COMMUNITIES

3.8.1.1 Desert Sink Scrub (113,847 Acres)

Desert sink scrub occurs in valley bottoms throughout the planning area. Black greasewood is an indicator of a high water table and is closely associated with alkali meadows and dry bottomland. This vegetation type mainly produces less palatable shrubs and few grasses. Annual precipitation in the valley bottom area is 3–8 inches. Plants growing here are big sagebrush, shadscale, gray molly kochia, alkali rabbitbrush, seepweed, alkali sacaton, inland saltgrass, Indian ricegrass, bottlebrush squirreltail, and bluegrass. This plant community has been mapped with three associations:

1. *Allertolfea occidentalis* (iodine bush) association
2. *Sarcobatus vermiculatus* (black greasewood) association
3. *Sarcobatus vermiculatus*-*Artemisia tridentata* (greasewood-sagebrush) association.

3.8.1.2 Saltbush Scrub (206,123 Acres)

This is the second most dominant vegetation type in the planning area. The ecological sites associated with this type occur mainly in the valleys on alluvial fans and up into the hills in the southern portion of the planning area. Precipitation ranges from 3 to 8 inches. In these areas, the vegetation is dominated by shadscale and bud sagebrush, Bailey greasewood, Douglas rabbitbrush, four-wing saltbush, and winterfat. Perennial grasses include Indian ricegrass, bottlebrush squirreltail, needle-and-thread, sand dropseed, and desert needlegrass. The saltbush community has been divided into 10 associations:

1. *Atriplex gardneri falcate* (sickle saltbush) association

2. *Atriplex canescens* (four-wing saltbush) association
3. *Tetradymia* spp. -*Atriplex canescens* (Horsebrush-four-wing saltbush) association
4. *Atriplex confertifolia*-*Artemisia spinosa* (shadscale-budsage) association
5. *Atriplex confertifolia*-*Sarcobatus vermiculatus* (shadscale-greasewood) association
6. *Atriplex confertifolia*-*Lycium cooperi* (shadscale-wolfberry) association
7. *Atriplex confertifolia* (shadscale-saltbrush) association
8. *Atriplex torreyi* (Torrey's quailbush)
9. *Grayia spinescens* (spiny hopsage) association
10. *Krashenninkovia lanata* (winterfat) association.

3.8.1.3 Sagebrush Scrub Plant Community (484,228 Acres)

Sagebrush scrub is the most common vegetation type in the planning area. Sagebrush is not as tolerant of saline soils as saltbush. Big sagebrush occurs mainly in the mountains and hills and is less common in the southern half of the planning area, which is dryer and warmer. This community is dominated by four subspecies of Great Basin sagebrush (*Artemisia tridentata* ssp. *tridentata*, ssp. *wyomingensis*, ssp. *vaseyana*, and ssp. *lahontensis*). The height of this scrub is between 1 and 6.5 feet tall and total cover can range from 10 percent on degraded sites to nearly 60 percent. More commonly, shrub cover is about 25 percent of the ground while forbs and grasses cover another 25 percent.

While sagebrush often forms pure stands, more commonly it is associated with many other shrub species. Rubber and sticky leaf rabbitbrush are common early successional species following fires. Spiny hopsage frequently occurs at the lower elevations and is part of the transition at lower elevations with the saltbush scrub community. At higher elevations bitterbrush is a common shrub associated with sagebrush. Common grasses in the sagebrush scrub include squirreltail grass, Great Basin wildrye, Sandberg bluegrass, beardless wheatgrass, bluebench wheatgrass, Thurber needlegrass, and needle-and-thread grass. Cheat grass is a major problem in this community after fires. Six associations of sagebrush scrub have been mapped:

1. *Artemisia arbuscula* (low sagebrush) association
2. *Artemisia tridentata tridentata* (big sagebrush) association
3. *Artemisia tridentata vaseyana* (basin big sagebrush) association
4. *Artemisia tridentata wyomingensis* (Wyoming sagebrush) association
5. *Artemisia tridentata vaseyana* (mountain sagebrush) association
6. *Artemisia arbuscula* ssp. *longicaulis* (Lahontan sagebrush) association.

3.8.1.4 Utah Juniper Woodland (43,048 Acres)

Utah juniper woodlands grow in the mountains and are more common at higher elevations. Understory vegetation is sparse and usually includes big sagebrush, bitterbrush, green Ephedra, desert snowberry, Utah serviceberry, mountain mahogany, rabbitbrush, rubberweed, Indian ryegrass, needlegrass, bottlebrush squirreltail, Sandberg bluegrass, and Canby bluegrass. Average annual precipitation is above 12 inches. Junipers are most common on hillsides and well-drained soils at moderate elevations. Juniper occurs at lower elevations in pure stands. The only association is *Juniperous osteosperma* (Utah juniper).

3.8.2 SECONDARY COMMUNITIES

3.8.2.1 Alkali Meadows and Bottomlands

Alkaline meadows occur on valley bottoms with high water tables throughout the planning area. Small meadows are rare in the sagebrush community. Existing meadows have experienced heavy livestock grazing and are now dominated by low palatable plants such as western blue-flag and thistle. Meadows have up to 85 percent grass. Annual precipitation is between 3 and 8 inches. Plants growing here include inland saltgrass, alkali

sacaton, Baltic rush, Great Basin wildrye, black greasewood, rubber rabbitbrush, and alkali rabbitbrush. Forbs are generally more common than annuals with the most common genera including locoweed, Indian paint brush, buckwheat, lupine, and beardtongue. Alkaline seeps and springs and playa edges are other habitats dominated by saltgrass. The only association is *Distichlis spicata* (inland saltgrass alkaline meadow) association.

3.8.2.2 Riparian (696 Acres)

Typical riparian vegetation species include aspen, willow species, wild rose, sedge species, rush species, and Kentucky bluegrass.

Riparian areas within the sagebrush scrub are usually dominated by species of willow (*Salix*). In well-developed riparian areas, gallery forests of Fremont cottonwood occur with small thickets of western chokecherry, blue elderberry, and buffaloberry. Only two associations of this community have been mapped:

1. *Salix* (willow riparian) association
2. *Shepardia argentea* (silver buffaloberry) association.

The lower elevation limits of this community in northern and central Nevada are determined by the presence of saline soils in the valley bottoms. Sagebrush seedlings are not tolerant of saline conditions but sagebrush sometimes descends into the blackbrush scrub along large washes with deep sandy soils.

3.8.2.3 Freshwater Marsh

Emergent water plants dominate along the edges of manmade ponds and drainage ditches. Such areas are usually dominated by cattails (*typha* spp.). Cattails can also occur in natural environments along slow moving streams. The only mapped marsh association is Cattail Freshwater marsh.

3.8.3 SPECIAL STATUS SPECIES

Special status species of plants occur on public land within the planning area. Special status designations are assigned for many reasons, including limited distributions, habitat losses resulting from environmental impacts, suspected or documented population declines, or some combination of these factors.

The U.S. Fish and Wildlife Service (USFWS) list of threatened species and species of concern for the planning area are shown in Table 3-7 along with brief notes on habitats by species. The listings are used to prioritize survey efforts by the BLM. The opinions of private organizations, such as the Nevada Natural Heritage Program, are considered in the process of determining BLM, state, and USFWS lists.

Table 3-7. Special Status Plant Species

Common Name	Scientific Name	Habitat Description
Candidate Species		
Soldier Meadows cinquefoil	<i>Potentilla basaltica</i>	Found on moist salt-crusted silt in alkaline meadows and stream margins associated with thermal springs. Generally on southeast slopes. Major threats: disturbance associated with recreational use of habitat, off-road vehicles, and water diversions.
Species of Concern That May Occur in the Planning Area		
Tiehm's milkvetch Schoolcraft's cryptantha Crosby's buckwheat	<i>Astragalus tiehmii</i> <i>Cryptantha schoolcraftii</i> <i>Eriogonum crosbyae</i>	Whitish water deposited, volcanic ash deposits weathered to deep clay soils, generally on gentle slopes. Major threats: disturbance of habitat associated with human use.
Windloving buckwheat	<i>Eriogonum anemophilum</i>	Found on dry and barren ridges, knolls, and hills. Major threats: habitat disturbance by ungulates.
Grimy ivesia	<i>Ivesia rhypara</i> var. <i>rhypara</i>	Mostly on dry, barren, yellowish ash deposits. No known major threats.
Smooth stickleaf	<i>Mentzelia mollis</i>	Habitat is dry, open, barren, slopes of brightly colored clay badlands formed from volcanic ash. Major threats: habitat disturbance associated with human uses.
Cordelia beardtongue	<i>Penstemon floribundus</i>	Found on dry, open, mostly dark-colored volcanic talus and associated rocky slopes. No known major threats.

3.8.4 NOXIOUS WEEDS

Noxious weeds are defined by the State of Nevada and are typically nonnative invasive plants. They are fast spreading and often expensive or difficult to control, and when introduced to an area, they can quickly dominate the landscape, when uncontrolled. Noxious weeds may proliferate to the point of crowding out other plants that benefit wildlife and domestic animals.

Noxious weeds are spread from infested areas by people, equipment, livestock/wildlife, and the wind. The potential for additional weed infestations grows along with increased weed populations as a result of man's activities.

The Winnemucca and Surprise Field Offices conduct ongoing inventories of noxious weeds through contract and with office personnel.

To date, inventory efforts have identified five noxious weeds within the planning area: perennial pepperweed [or tall whitetop] (*Lepidium latifolium*), Russian knapweed (*Acroptilon repens*), salt cedar (*Tamarix ramosissima*), whitetop or hoary cress (*Cardaria draba*), and Scotch thistle (*Onopordum acanthium*).

Other noxious weeds present in the surrounding area are musk thistle (*Carduus nutans*), yellow starthistle (*Centaurea solstitialis*), spotted knapweed (*Centaurea maculosa*), whitetop or hoary cress (*Cardaria draba*), dyer's woad (*Isatis tinctoria*), Medusahead (*Taeniatherum caput-medusae*), Mediterranean sage (*Salvia aethiopsis*) and leafy spurge (*Euphorbia esula*).

Treatment for priority noxious weed species is occurring yearly. With the exception of salt cedar and whitetop, occupied areas are less than one-tenth an acre in size and generally associated with roads.

season of use, and amount of use. Animal Unit month (AUM) under active use do not include those that are suspended. Changes in available forage due to temporary conditions, including drought, may require adjustments in the levels of livestock use.

3.9 LIVESTOCK GRAZING

The planning area includes portions of 19 grazing allotments (11 under the Winnemucca Field Office and 8 under the Surprise Field Office) (Map 3-5). Tables 3-8 and 3-9 show the grazing allotments and associated grazing use by permittee,

Table 3-8. Grazing Allotments

Allotment (Administering FO)	Activity Plan Decision Date	Total Acres	Acres Within Planning Area ¹	% in Planning Area	Number of Permittees
Bare (Surprise)	AMP/1999	201,705	17,015	8.4	1
Blue Wing Seven Troughs (Winnemucca)	MUD/1994 + 1999 Agreement	1,376,261	25,692	1.9	4
Bottle Creek (Winnemucca)	MUD/2000	139,388	217	0.1	5*
Buffalo Hills (Winnemucca)	MUD /1994	473,858	102,412	21.7	3*
Deer Creek (Winnemucca)	MUD /1998	30,851	9,195	29.8	1
Denio (Surprise)	AMP/1987	24,266	6,226	25.7	1
Happy Creek (Winnemucca)	MUD /1997	99,178	6,335	6.4	2*
Home Camp (Surprise)	AMP/2001	146,119	1,346	.9	4
Jackson Mountains (Winnemucca)	MUD /1994 + Stipulated Agreement	363,012	139,588	38.5	2*
Leadville (Winnemucca)	MUD /1994	57,110	29,135	51.0	1
Long Valley (Surprise)	AMP/1983	74,059	2,341	3.2	2
Massacre Lakes (Surprise)	AMP/1982	46,964	3,822	8.1	1
Massacre Mountain (Surprise)	None	149,059	134,927	90.5	2
Majuba (Winnemucca)	None	280,265	12,168	4.3	3
Nut Mountain (Surprise)	AMP/	71,348	11,931	16.7	1
Paiute Meadows (Winnemucca)	MUD /1993/1995	173,622	78,911	45.4	1
Pine Forest (Winnemucca)	None	142,706	29,397	20.6	1
Soldier Meadows (Winnemucca)	MUD /1994	341,936	272,208	79.6	1
Wall Canyon East (Surprise)	AMP/2001	40,806	11,052	27.1	1
Total	-	4,209,129	893,918	21.2	37

1 – Acreage totals include all land ownership types within each allotment.

* These allotments have a domestic sheep permittee that are annually authorized to trail through the allotment, but they have no term grazing permit.

Table 3-9. Allotment Permit Information Within the Planning Area

Allotment	Permittee	Number/Type of Animals	Season of Use	AUMs Active Use
Bare	North Fork Ranch	1870 C	03/01–06/30	7,350
		1340 C	07/01–10/31	5,310
		670 C	11/01–11/30	648
Blue Wing	C-Punch	1297 C	10/15–04/14	6,477
		1518 C	04/15–10/14	7,580
	Wesley Cook	4320 S	12/07–03/17	2,869
	John Espil	2200 S	12/01–05/31	2,647
	Dufurrena Sheep	544 S	11/01–03/31	544
Bottle Creek	DeLong Ranches	100 C	09/01–11/08	227
	Dufurrena Sheep	Sheep	Trailing	*
	Robert Hoenck	100 C	04/01–06/30	299
	Mel Hummel	175 C	06/01–08/15	437
	Wilson Ranch	231 C	11/01–01/31	699
		208 C	04/01–12/15	1,771
Buffalo Hills	Chuck Jackson	613 C	04/01–10/15	3,990
	Joel Turnbow	20 C	04/01–10/15	130
	Wesley Cook	Sheep	Trailing	*
Deer Creek	R.J. Nuffer	94 C	03/01–07/31	473
		94 C	10/01–12/31	284
Denio	Berryessa LS Hein/Davis	288 C	04/16–10/15	1,542
Happy Creek	Dufurrena Sheep	Sheep	Trailing	*
	Happy Ck. Inc.	500 C	04/01–05/14	723
		350 C	05/15–07/15	713
		500 C	07/16–08/30	756
		150 C	05/15–07/15	306
		272 C	10/15–12/28	1,225
Home Camp	William Cockrell	192 C	04/01–04/15	86
		502 C	04/16–08/31	2,073
		251 C	09/01–09/15	113
	Grove Brothers LS Grove LLC	288 C	04/01–04/15	129
		753 C	04/16–08/31	3,109
		376 C	09/01–09/15	169
	Jim Cockrell	192 C	04/01–04/15	86
		502 C	04/16–08/31	2,073
		251 C	09/01–09/15	113
	Robert Cockrell	94 C	04/01–04/15	42
		251 C	04/16–08/31	1,036
		126 C	09/01–09/15	57

Table 3-9. Allotment Permit Information Within the Planning Area (cont'd)

Allotment	Permittee	Number/Type of Animals	Season of Use	AUMs Active Use
Jackson Mountains	DeLong Ranches	100C	03/01–03/15	48
		363 C	03/16–03/31	187
		750 C	04/01–04/30	725
		1750 C	05/01–08/15	6,033
		702 C	08/16–09/30	1,040
		202 C	10/01–10/31	202
		155 C	11/01–02/28	599
		23 C	11/01–11/30	23
	Dufurrena Sheep	Sheep	Trailing	*
Leadville	Robert DePaoli	235 C	05/01–10/15	1,298
Long Valley	Hicks Brothers	181 C	05/01–09/30	910
	Joe Stevenson	347 C	05/01–09/30	1,745
Majuba	DeLong Trust	613 C	03/01–06/15	819
		300 C	06/16–06/30	56
		522 C	10/15–01/20	639
		613 C	01/21–02/28	299
	Dufurrena Sheep	900 S	11/01–03/31	531
	John Espil	815 S	12/01–05/31	981
Massacre Lakes	Alex Erquiaga	582 C	04/16–09/30	3,215
Massacre Mountain	Bunyard Ranch LS	150 C	04/01–09/30	902
	White Pine Ranch White Pine Ranch	818 C	04/01–09/30	4,921
Nut Mountain	Holiday Ranches	815 C	04/16–10/15	4,903
Paiute Meadows	Irvin Brown	524 C	03/15–10/06	3,548
Pine Forest	Pine Forest Land & Stock Co.	600 C	04/01–04/15	296
		1100 C	04/16–11/30	8,282
		301 C	12/01–02/28	891
		15 H	05/01–09/30	75
		13 C	03/01–02/28	156
Soldier Meadows	Estill, et al	500 C	03/01–03/31	510
		1117 C	04/01–04/30	1,102
		1117 C	07/15–10/14	3,379
		1117 C	11/16–12/31	1,689
		500 C	01/01–02/28	970
Wall Canyon (East)	Estill, et al	656 C	05/01–09/30	3,234

3.10 WILD HORSES AND BURROS MANAGEMENT

The planning area encompasses portions of seven herd management areas (HMA) and one herd area (HA) (Table 3-10) (Map 3-6). Wild horses are primarily found at higher elevations in the HMAs, except for the winter months when there is some movement to the valley floor. Wild burros are found only in the Warm Springs Canyon HMA and Kamma Mountains HMA, typically on upland areas in the vicinity of the hot springs complex, from Fly Canyon north to the mouth of Warm Springs Canyon.

The Kamma Mountains and Lava Beds HMAs, and Antelope Range HA are located south of the Union Pacific Railroad tracks. There are approximately 3,836 acres (6.7 percent) of the Kamma Mountains and 4,465 acres (1.9 percent) of the Lava Beds HMAs, and 6,106 acres (4.6 percent) of the Antelope Range HA within the planning area. Wild horses in the Lava Beds HMA are seldom found within the planning area boundary. Wild horses may use Rabbithole Spring during droughts or the late summer season, as water becomes scarce at other sources.

TABLE 3-10. Herd Management Areas¹

Herd Management Area	Total Acres	Acres Within Planning Area	% in Planning Area	AML # or Range	Est. Pop 2002
Antelope Range (HA) (Winnemucca)	131,585	6,106	4.6	0	37
Black Rock Range East (Winnemucca)	93,438	24,884	26.6	60–93	121
Black Rock Range West (Winnemucca)	93,199	81,605	87.6	60–93	108
Calico Mountains (Winnemucca)	160,822	122,675	76.3	250–333	367
Fox-Hog (Surprise)	124,239	17,010	13.7	169	-
High Rock (Surprise)	94,717	94,459	99.7	100	-
Jackson Mountains (Winnemucca)	283,766	79,395	28.0	136–217	584
Kamma Mountains (Winnemucca)	57,386	3,836	6.7	58–77	77
Lava Beds (Winnemucca)	232,967	4,465	1.9	Horses: 111–148 Burros: 12–16	Horses: 88 Burros: 1
Massacre Lakes (Surprise)	39,952	905	2.3	-	-
Nut Mountain (Surprise)	40,271	11,945	29.7	55	-
Wall Canyon East (Surprise)	41,105	11,060	26.9	25	0
Warm Springs Canyon (Winnemucca)	91,708	33,201	36.2	Horses: 131–175 Burros: 18–24	Horses: 255 Burros: 38

1 – Acreage totals include all land ownership types within each herd management area.

Source: BLM NCA Staff

3.11 FIRE MANAGEMENT

3.11.1 FIRE ECOLOGY AND HISTORY

The wildland fire season generally runs from mid-May through mid-September. Regionally, lightning causes about 90 percent of the fires that occur; humans cause the rest of the fires. To a large extent the planning area contains discontinuous fuel types that prevent fires from getting large. During the past 20 years, only two fires have been larger than 100 acres. This indicates a fire regime with low fire occurrence and frequency.

3.11.2 SUPPRESSION AND EXISTING FIRE INFRASTRUCTURE

When wildfire occurs, suppression resources are dispatched from the Susanville, California, interagency fire center or the Central Nevada Interagency Fire Center in Winnemucca. The goal of initial fire attack is to suppress all wildfires at minimal acres burned. This also applies to wilderness areas; however, minimum impact suppression techniques consistent with the minimum tool standard must be used. There are no wildland-urban interface areas within the planning area at risk from wildland fire. Typical suppression resources might include handcrews, engines, air tankers, and helicopters. Heavy equipment could be used in nonwilderness.

3.11.3 PRESCRIBED FIRE

Prescribed fire has rarely been used in the planning area. Prescriptions have primarily been for meadow restoration in High Rock Canyon.

Total prescribed fire acreage in the last 20 years is less than 200 acres.

3.11.4 EMERGENCY FIRE REHABILITATION

Common rehabilitation activities may include seeding with native or nonnative plants, noxious weed control, erosion control, and building of protective fencing to exclude livestock. When wildfires burn at lower elevations or in other areas at risk of conversion to cheatgrass, emergency fire rehabilitation is undertaken to prevent the spread of cheatgrass.

3.12 FISH AND WILDLIFE

The habitat and wildlife within the planning area are representative of northern Great Basin flora and fauna. The planning area has an unusual mosaic of diverse habitat types within a relatively small area. Sagebrush, with patchy grasslands, provides year-long habitat for mule deer (*Odocoileus hemionus*) (Map 3-7), California bighorn sheep (*Ovis canadensis californiana*) (Map 3-8), and pronghorn antelope (*Antilocapra americana*) (Map 3-9). Aspen (*Populus tremuloides*) and mountain mahogany (*Cercocarpus ledifolius*) provide nesting sites for a variety of bird species more commonly found in more heavily timbered areas. Large and small rim rock complexes in canyons and along mountain ridges provide cliff and rock slope habitats that are primary nesting sites for swallows, swifts, golden eagles (*Aquila chrysaetos*), prairie falcons (*Falco mexicanus*), turkey vultures (*Cathartes aura*), and numerous species of hawks. These rim rocks also provide escape cover for bighorn sheep, denning sites for mountain lions (*Felis concolor*) and bobcats (*Lynx rufus*), and year-long homes for many small mammals including ground squirrels, wood rats (*Neotoma* spp.), rabbits and marmots (*Marmota flaviventris*). Abandoned mine shafts and adits, along with some of the natural caves, provide potential and probably occupied habitat for numerous species of bats. Intensive bat inventories have not been completed.

Water sources are important to the location and survival of plants and animals within the planning area. Seeps and springs provide water and meadow habitats of green lush vegetation during hot, dry summer months to various wildlife species, including sage-grouse (*Centrocercus urophasianus*). Riparian habitats are used extensively by wildlife, including neotropical and migrant bird species in the spring and fall months, including hummingbirds, finches, warblers, thrushes, and orioles. Small, shallow depressions and playa areas filled from precipitation provide seasonal habitat for resident and migrant waterfowl and shorebirds including American avocet (*Recurvirostra americana*), killdeer (*Charadrius*

vociferous), black-necked stilt (*Himantopus mexicanus*), long-billed curlew (*Numenius americanus*), Canada geese (*Branta canadensis*), mallard (*Anas platyrhynchos*), gadwall (*Anas strepera*), cinnamon teal (*Anas cyanoptera*), northern shoveler (*Anas clypeata*), redhead (*Aythya americana*), canvasback (*Aythya valisineria*) and tundra swan (*Olor columbianus*). The small streams and spring outlets provide wet meadow and stream-side riparian habitats used by a great variety of species.

Because of the limited amount of systematic survey data on record for many species, primary emphasis in this document is placed on habitat relationships as described in "Wildlife Habitats in Managed Rangelands" (Maser et al. 1984). Where applicable, other detailed studies and more current research findings were used. Very little information is available on invertebrates (insects, snails, etc.)

Species not specifically discussed in this plan are nevertheless important and contribute to the diversity and health of plant and animal communities on the public land. Many species fill ecological roles that are important but yet not fully understood.

3.12.1 KEY INTERACTIONS WITH THE NEVADA DIVISION OF WILDLIFE

The BLM manages lands as wildlife habitat. The Nevada Division of Wildlife (NDOW) manages wildlife populations. The BLM consults and cooperates with the NDOW and the USFWS on wildlife species management. NDOW sets population and species management goals for both game and nongame species within the state. The USFWS provides sensitive species lists and provides biological opinions on selected species. The BLM collaborates with NDOW in helping to meet these goals by providing an appropriate amount and quality of habitat on public land, consistent with multiple use management. The wildlife population data presented in this document are estimates from NDOW. The data are suitable for analysis purposes but the locations and numbers of animals can be expected to vary somewhat

throughout the life of this plan as a result of population cycles, weather, and many other factors.

3.12.2 FISH AND AQUATIC HABITAT

Numerous springs systems exist within the NCA planning area, which range from cold (near or below mean air temperature), thermal (5-10 °C above mean air temperature), or hot (more than 10 °C above mean air temperature) (see Sada et al. 2001). Only a small portion of these springs has been inventoried to determine the presence of Hydrobiid snails (BLM Species of Special Concern), in addition few springs systems have been surveyed to determine riparian condition. Current data indicates the presence of at least eight species of Hydrobiid snails within the NCA planning area. These species include *Pyrgulopsis militaris*, *Pyrgulopsis umbilicata*, *Pyrgulopsis notidicola*, *Pyrgulopsis limaria*, *Pyrgulopsis gibba*, two undescribed *Pyrgulopsis* spp., and one undescribed *Fluminicola* spp. (Table 3-11). Desert dace, *Eremichthys acros*, a federally listed threatened fish species since 1985 (50 Federal Register 50304), is the only member of the *Eremichthys* genus and is endemic to the Soldier Meadows region of the NCA planning area. At least nine thermal outlets and stream channels support this unique, spring dwelling species.

Table 3-11. Hydrobiidae Springsnails Within the Planning Area

Common Name	Species	Status
northern Soldier Meadows springsnail	<i>Pyrgulopsis militaris</i>	State of Nevada listed Sensitive; Proposed BLM Sensitive
southern Soldier Meadows springsnail	<i>Pyrgulopsis umbilicata</i> ,	State of Nevada listed Sensitive; Proposed BLM Sensitive
elongate Mud Meadows springsnail	<i>Pyrgulopsis notidicola</i>	State of Nevada listed Sensitive; Federal Candidate Species
squat Mud Meadows springsnail	<i>Pyrgulopsis limaria</i>	State of Nevada listed Sensitive; Proposed BLM Sensitive
Surprise Valley springsnail	<i>Pyrgulopsis gibba</i>	BLM Species of Special Concern
*	<i>Pyrgulopsis</i> spp	BLM Species of Special Concern
**	<i>Fluminicola</i> spp.	BLM Species of Special Concern
* Two unique, undescribed species of <i>Pyrgulopsis</i> ** One unique, undescribed species of <i>Fluminicola</i>		

Within the NCA planning area more than 100 miles of perennial streams exist. The majority of these streams are small, moderate to high gradient streams, less than 6 feet wide, which infiltrate back into the water table after leaving the mountains. These streams support a diverse community of fish species comprising Cyprinids (minnows), Catostomids (suckers), and Salmonids (trout) (Table 3-12). Members of the salmonidae family are the primary game species within the planning area. These species include the only native salmonid to the region, Lahontan cutthroat trout, and two exotic species: rainbow trout (*Oncorhynchus mykiss*) and brook trout (*Salvelinus fontinalis*). Salmonids are coldwater stenotherms, occupying waters that generally do not exceed 21 °C. Salmonids will exploit nearly all habitats that exhibit cool, stable summer temperatures, yet they are very sensitive to water quality impacts and

require a diversity of habitats to complete their life cycle. In general, salmonids prefer silt-free substrates, clear water, stable temperatures, riparian / in-stream cover, undercut banks, and a complexity of life-stage-specific habitats (i.e., lateral scours, pools, undercuts, riffles) that are within a close proximity of each other.

Table 3-12. Fish Species Present Within the NCA Planning Area

Common Name	Species
Lahontan cutthroat trout	<i>Oncorhynchus clarki henshawi</i>
rainbow trout	<i>Oncorhynchus mykiss</i>
brook trout	<i>Salvelinus fontinalis</i>
tui chub	<i>Siphateles bicolor</i>
goldfish	<i>Carassius auratus</i>
desert dace	<i>Eremichthys acros</i>
speckled dace	<i>Rhinichthys osculus</i>
Tahoe sucker	<i>Catostomis tahoensis</i>
largemouth bass	<i>Micropterus salmoides</i>
Lahontan redbreast	<i>Richardsonius egregius</i>
green sunfish	<i>Lepomis cyanellus</i>

The Paradise-Demo Grazing EIS and Sonoma-Gerlach Grazing EIS (1981) defined stream conditions in the allotments that are now within the NCA planning area based on a rating system. The rating system using the stream survey habitat optimum (HO) value, streams were broken down into four categories: excellent (>70% HO), good (60–69 HO), fair (50–59 HO), and poor (<49% HO). These category ratings reflect the habitat conditions for aquatic species, specifically salmonids. Approximately 17.8 percent of the streams were in poor condition, 60.6 percent in fair condition, and 5.3 percent in good condition, and 16.2 percent in excellent condition. Current stream conditions on these allotments have improved for the most part since 1981. According to stream

surveys conducted in the late 1990s through 2001, 7.35 percent are in poor condition, 15.1 percent are in fair condition, 56.98 percent are in good condition, and 20.58 percent are in excellent condition. For aquatic habitat condition, the threshold is good condition or better; less than this is an adverse impact. In accordance with BLM Manual 6500, *Wildlife and Fisheries Management*, the goals for important fisheries, which include major recreational fisheries, threatened, endangered, or sensitive aquatic or riparian species, is to maintain or enhance conditions. Further, ecosystems that are rare or vulnerable, such as spring systems inhabited by Hydrobiid springsnails, should be maintained. Currently, 77.56 percent of the lotic aquatic habitats surveyed are in good condition or better, with only 7.8 percent of the surveyed streams declining in condition since 1981. The streams that declined in condition only slightly decreased ($\leq 3\%$) in HO over a period of 21 years.

Riparian habitats directly influence the adjacent aquatic ecosystems by providing shade, organic matter, cover, bank stability, and sediment filtration. Proper functioning condition (PFC) surveys are conducted to assess the riparian zones' ability to dissipate stream energy, thus protecting stream banks and minimizing erosion. PFC surveys classify riparian zones into three categories: proper functioning condition (PFC), functional at-risk (FAR), and nonfunctional (NF). Trends can also be established for the riparian zone reach being surveyed. Currently, riparian data within the planning area indicate that approximately 54 percent of the reaches are FAR or NF, while approximately 46 percent are at PFC.

Existing entirely within the NCA are four watersheds and portions of seven others that contain streams, which are considered occupied or potential habitat for Lahontan cutthroat trout, *Oncorhynchus clarki henshawi*, a federally listed threatened species since 1975 (Federal Register Vol. 40, p. 29864 Table B). Summer Camp, Colman, Battle, and Mary Sloan Creek watersheds are completely within the NCA and are currently occupied by a population of Lahontan cutthroat trout. Donnelly Creek watershed is also within the NCA, and although no Lahontan cutthroat trout currently inhabit the stream, it is listed as a Lahontan cutthroat trout recovery stream and is managed in accordance with the 1995 Lahontan cutthroat trout Recovery Plan (Coffin and Cowan 1995). Snow,

Mahogany, and the North Fork of Jackson Creek, which contain Lahontan cutthroat trout recovery streams (Coffin and Cowan 1995), exist partially within the NCA and are occupied by Lahontan cutthroat trout. Paiute, Bartlett, and Happy Creek watersheds are partially encompassed by the NCA planning area and contain streams listed as Lahontan cutthroat trout recovery waters. Bottle Creek is only listed as a target watershed for Lahontan cutthroat trout reintroduction in the Nevada Division of Wildlife Lahontan cutthroat trout Species Management Plan (NDOW 1996). Table 3-13 presents the 1995 Lahontan cutthroat trout Recovery Plan designations.

The 1995 Lahontan Cutthroat Trout Recovery Plan states that "...at the very least, designating and managing a Streamside Management Zone (SMZ)...that includes the stream, riparian and streambank vegetation, and adjacent areas that might affect water quality, fish, and other aquatic resources is important for recovery of Lahontan cutthroat trout on most small streams. A SMZ requires more intensive management and monitoring than an upland area, and is a broader area than the narrow riparian zone." (Coffin and Cowan 1995)

Table 3-13. 1995 Lahontan Cutthroat Trout Recovery Plan Designations

Watershed Name	Stream	Habitat Designation	LCT present
		O = occupied P = potential	Y = yes N = no
Bartlett Creek	Bartlett Creek	P	N
Battle Creek	North Fork of Battle Creek	P	Y
Bottle Creek*	Bottle Creek*	-	N
Colman Creek	Colman Creek	P	Y
Donnelly Creek	Donnelly Creek	P	N
Happy Creek	Happy Creek	P	N
Jackson Creek	North Fork of Jackson Creek	P	Y
Mahogany Creek	Mahogany Creek	O	Y
Mary Sloan Creek	Mary Sloan Creek	P	Y
Snow Creek	Snow Creek	O	Y
Summer Camp Creek	Summer Camp Creek	O	Y

* Bottle creek is not listed in the 1995 Lahontan cutthroat trout Recovery Plan, but it is listed as a target watershed for Lahontan cutthroat trout reintroduction in the Nevada Division of Wildlife Species Management Plan (1996)

3.12.3 WILDLIFE AND WILDLIFE HABITAT

Wildlife habitat needs vary significantly by species. It is generally true, however, that healthy and sustainable wildlife populations can be supported where there is a diverse mix of multicanopied plant communities to supply structure, forage, cover, and other specific habitat requirements.

Broadly grouped wildlife habitats and habitat relationships are briefly described under the

headings that follow. See Maps 3-7, 3-8, 3-9, and 3-10 for wildlife habitat and for vegetation type, Map 3-11 of the planning area.

3.12.3.1 Sagebrush Scrub

Sagebrush steppe/sagebrush includes a number of upland vegetation communities with a shrubland aspect and a variable understory of grass and forbs. Examples of generally short shrub species include varieties of big sagebrush (*Artemisia tridentata*), low sagebrush (*Artemisia arbuscula*), and rabbitbrush (*Chrysothamnus* spp). Mountain mahogany (*Cercocarpus ledifolius*), snowberry (*Symphoricarpos oreophilus*), and antelope bitterbrush (*Purshia tridentata*) are examples of taller steppe species collectively referred to as mountain shrubs in this document. Shrubby plants are important to most small and large wildlife because they supply food as well as hiding cover and structure. The thermal relief provided by shrub cover helps wildlife to survive the rigors of summer heat and winter cold.

Sagebrush habitats are a dominant type within the planning area; hence, the welfare of this important western shrub community has great influence on the health of many common and special status wildlife. Sagebrush provides direct benefits to some species, such as sage-grouse, and for others they are indirect, as in the case of raptors dependent on prey that inhabit sagebrush rangelands. As already described in the vegetation section, many sagebrush communities have been altered from their natural state by invasions of weedy species, grazing use, and fires.

The presence of a sagebrush overstory is strongly associated with wildlife community diversity. Masser et al. 1984 indicates that significantly more species of wildlife can find suitable breeding and feeding habitat in areas with a big sagebrush shrub overstory than in those with a grassland aspect.

Sagebrush is not the only important plant species valuable to wildlife in steppe rangelands. Grasses and forbs also provide food and cover for wildlife. Habitats providing a predominately native mixture of grasses and forbs, typically found at middle, late, and Potential Natural Community seral stages, meet the needs of a wide range of species. Although there are exceptions to the rule, in most

instances native perennial herbaceous species are preferable as wildlife forage and cover.

3.12.3.2 Saltbrush

Salt desert vegetation communities support a wide range of wildlife species with substantial overlap with the sagebrush communities. However, because salt desert types are substantially drier, the abundance of wildlife and diversity is lower. Notable salt desert wildlife species include kit fox (*Vulpes macrotis*) and antelope ground squirrel (*Ammospermophilus leucurus*). Reptiles are well represented in this type because of the lower elevations and warmer conditions.

3.12.3.3 Riparian Habitat and Wetlands

Riparian areas consist of plant communities associated with streams and rivers. The structure, food, and water provided in riparian areas makes them the single most diverse and productive habitat for wildlife. Where site potential allows, multicanopy riparian areas with trees, shrubs, grasses, forbs, sedges, and rushes are exceptionally valuable as habitat for a wide array of wildlife species. Riparian areas dominated by herbaceous communities and with low potential for multicanopy structure are nevertheless important as water and succulent food sources for wildlife. The presence of multiple-aged classes of woody and herbaceous vegetation is generally indicative of healthy wildlife habitat conditions.

Other permanently wet or seasonally wet areas, typically called wetlands, include reservoirs, vegetated playas, meadows, springs, and seeps. They are also commonly found independent of a defined stream channel and can occur throughout various elevations and landscape settings. This is particularly true for meadows, springs, and seeps that may be present within very arid areas and at low elevations.

Wetlands are similar to riparian areas in that the site potential for wildlife habitat can vary markedly. Regardless of the habitat type, wetlands typically provide wildlife succulent green forage, insects, and drinking water. Green forage is especially important for many wildlife species

during the summer and fall when upland vegetation has dried out.

Meadow habitats are vulnerable to grazing and other surface-disturbing uses that affect soil stability, water-holding capacity, and plant composition. All meadows are important watershed components. Meadows functionally impaired by gullies, sagebrush encroachment, and dominance by species such as iris (*Iris* spp.) provides greatly diminished wildlife habitat values, and indicates poor habitat health.

Where the site potential exists, wetlands associated with reservoirs or vegetated playas commonly provide valuable nesting and brood-rearing habitat for waterfowl and shorebirds. Common vegetation associated with these types of wetlands includes inland saltgrass (*Distichlis spicata stricta*), Baltic rush (*Juncus balticus*), spikerush (*Eleocharis* spp.), alkali bulrush (*Scirpus robustus*), and cattail (*Typha angustifolia*). Some species of amphibians, birds, and reptiles tend to associate with these areas.

Many springs flow directly into streams, but others form small, isolated ponds or marshy areas.

Springs and seeps are important to lotic (flowing water) habitat because of the perennial baseflow they provide. In winter, especially in small streams, this baseflow prevents formation of ice. In summer, inflow from springs not only provides volume but also helps to lower water temperatures.

Depending on soil and topography, extensive riparian or wetland areas may be associated with spring sources. Because of the continuous flow and constant temperature of most springs, riparian communities frequently remain permanently green, providing habitat and forage for wildlife throughout the year.

Springs can be a source of unique, native groups of invertebrates. Because these habitats are uncommon and isolated, a particular species may be found only at that site and may have little opportunity for dispersal or migration to other areas. Several rare snail species are restricted to springs and are vulnerable to development that eliminates shallow pools and surrounding riparian vegetation.

Animals are never abundant at hot springs; however, many unique species of beetles, fish including the desert dace, and invertebrates are adapted to hot springs. These invertebrate

communities generally rely on shallow areas of flowing hot water and algae and cannot survive where dams or barriers form deep pools.

3.12.3.4 Utah Juniper Woodlands

Utah juniper (*Juniperus osteosperma*) stands vary greatly in their value as habitat depending on site-specific factors such as height, stocking density, age of trees, and understory composition. Most of the Utah juniper woodlands are located in the Jackson Mountains Wilderness Areas. However, scattered Utah Juniper may be found in other parts of the planning area at midlevel elevations.

Large trees provide cavities for nesting birds like bluebirds (*Sialia* spp.) and northern flickers (*Colaptes auratus*) or features used by bats, and medium-sized trees provide nest sites on limbs for American robins and ruby-crowned kinglets. A survey in Idaho (Idaho Bureau of Land Management, Technical Bulletin No. 97-12), which contrasted songbird populations in clear-cut, burned, and old growth Utah juniper habitats, revealed a more robust and diverse population of songbirds in old growth compared to the treated areas. Mule deer (*Odocoileus hemionus*) use juniper for both thermal and escape cover. During severe winters, Utah juniper cover may be critical to deer survival (Leckenby et al. 1982). Many nongame species like the least chipmunk (*Eutamias minimus*) and scrub jay (*Aphelocoma coerulescens*) use Utah juniper for food and cover. Even dead juniper trees and snags are important for wildlife cover and food and even help recycle nutrients back to the soil.

3.12.3.5 Aspen-Mahogany Woodland Habitat

Aspen-mahogany woodlands occur at higher elevations in the northern part of the planning area in very small patches. Cavity-dependent species of forest-dwelling birds and mammals require snags for their reproduction. The size, age classes, and stocking levels of trees influence their values as wildlife habitat for game and nongame species. Dead and downed material supplies structure for a variety of purposes and plays an important role in

the overall ecology, such as providing recycled nutrients, of the forest and its wildlife.

3.12.3.6 Descriptions of Selected Species

3.12.3.6.1 Upland Game Bird Species

Upland game bird species within the planning area are sage-grouse (*Centrocercus urophasianus*), chukar partridge (*Alectoris graeca*), Hungarian partridge (*Perdix perdix*), valley quail (*Lophortyx californicus*), and mourning dove (*Zenaidura macroura*). The quality of upland game bird habitat depends on the availability of mixed shrubby and herbaceous vegetation types for nesting, foraging, and shelter. Riparian habitat plays an important role as a source of food, water, and shelter for most species. Current habitat conditions for chukar and mourning dove are generally considered to be in good quality and are limited by annual weather conditions. Valley quail habitat is variable and is generally dependent on the quality of riparian areas. Sage-grouse habitat is addressed below in the special status species section.

3.12.3.6.2 Mule Deer

Mule deer (*Odocoileus hemionus*) are widespread, typically associated with middle to upper elevation areas that support a wide variety of sagebrush, mountain shrubs, quaking aspen, juniper, and herbaceous vegetation. Mule deer also use lower elevations during years when heavy snowfall depth forces them to move. Mule deer are frequently associated with meadow and riparian habitat and tend to be present yearlong where public land adjoins cultivated farmland.

Deer migrating from higher elevations to lower elevations increase populations of some local herds in winter. Deer habitat areas, including winter ranges, are shown on Map 3-7.

Based on NDOW inventories, mule deer numbers are currently low relative to historic numbers and state management objectives. Drought, severe winters, and biological factors have contributed to these low numbers. Data from spring fawn surveys indicate a stable to increasing deer population for the planning area.

Deer are generally classified as browsers, and forbs and shrubs make up the bulk of their annual diet. The diet of mule deer is quite varied, however, and the importance of various classes of forage plants varies by season. For example, in late fall and early spring, new growth on grass especially at meadows may constitute an important part of their diet in some areas because it is highly palatable, nutritious, and abundant. In winter, especially when grasses and forbs are covered with snow, the entire diet may consist of shrubby species. Tall shrubs and trees are very important for food and cover.

Woodland and rangeland management actions all have the potential to influence mule deer cover and forage. Healthy quaking aspen, juniper, mountain shrub, and sagebrush communities are all important tall cover habitats for mule deer. Meadows and riparian areas provide succulent forage and water, especially during the fall and summer.

3.12.3.6.3 Pronghorn Antelope

Pronghorn antelope (*Antilocapra americana*) are distributed throughout much of the planning area. Winter concentration areas are shown on Map 3-9. During the summer, pronghorn antelope are widely distributed throughout valleys and mountain foothill habitats. They are associated with sagebrush and shadscale habitats with low structure. Data indicates that pronghorn populations are stable to expanding, which indicates viable and healthy herds.

Rangelands with a mixture of grasses, forbs, and shrubs provide the best habitat for pronghorn antelope (Yoakum 1972). The sagebrush community is used for both cover and forage. BLM livestock water developments have allowed pronghorn antelope to expand into formerly unoccupied areas. Lack of water at natural or developed sites can be a serious problem during periods of drought.

3.12.3.6.4 Cougar

Cougar (*Felis concolor*) are present throughout the planning area. NDOW data indicate that cougar populations are maintaining within the planning area. A healthy cougar population is indicative of a healthy ecosystem.

3.12.3.6.5 Raptors

Raptors (predatory birds such as hawks, eagles, owls, and falcons) can be found throughout much of the planning area. Local areas provide exceptionally high-quality raptor habitat and support high-density breeding populations. The High Rock Canyon is a good example of a high-density raptor-breeding habitat on public land. Common breeding species include the red-tailed Hawk (*Buteo jamaicensis*), prairie falcon (*Falco mexicanus*), American kestrel (*Falco sparverius*), golden eagle (*Aquila chrysaetos*), northern harrier (*Circus cyaneus*), great horned owl (*Bubo virginianus*), and long-eared owl (*Asio otus*). Other less common breeders that may be found locally include the ferruginous hawk (*Buteo regalis*) and burrowing owl (*Speotyto cunicularia*). Nesting habitats are found in Utah juniper, quaking aspen, and volcanic ledges and buttes. Prey species are more likely to be available for a wide range of raptors when plant communities are structurally diverse and support mixtures of grasses, forbs, and shrubs.

Most of the breeding species also winter within the planning area. The species that only winters in the area is the rough-legged hawk (*Buteo lagopus*).

3.12.3.6.6 Waterfowl, Shorebirds, and Wading Birds

Approximately 70 species of birds use the area's few wetlands during migration and as breeding habitat when surface water is present. Representative breeding species include the Canada goose (*Branta canadensis*), cinnamon teal (*Anas cyanoptera*), mallard (*Anas platyrhynchos*), gadwall (*Anas strepera*), American avocet (*Recurvirostra americana*), Wilson's phalarope (*Steganopus tricolor*), and spotted sandpiper (*Actitis macularia*). Vegetation cover for nest concealment from predators and for protection from other disturbances is important during the breeding season.

3.12.3.6.7 Landbirds (Also Known As Neotropical Migrant Birds)

The planning area supports a wide variety of neotropical migrant bird species (more than 240 species) that breed in the United States and winter in Central or South America. Populations of some of these species are declining as a consequence of

land use practices, cowbirds (*Molothrus ater*), and other factors. Neotropical migrants exhibit quite variable habitat requirements and are found in most habitat types. Most birds found in the planning area are neotropical migrant birds.

3.12.3.6.8 Invertebrates

Limited information is available on invertebrates, and more is known about aquatic than terrestrial species. The presence of aquatic invertebrates found only in clean water, such as assemblages of ephemeropterans (mayflies), plecopterans (stoneflies), and trichopterans (caddisflies), indicates healthy stream conditions.

As previously discussed, springs are a source of unique, native groups of invertebrates. Some species of nematodes, mites, beetles, flies, amphipods, and snails are adapted to specific hot springs. Numerous species of snails, belonging to the Hydrobiidae family (*Pyrgulopsis spp.*) (*Flumincola spp.*) have been collected from cold, thermal, and hot springs in the planning area and have been described as new species.

3.12.3.7 Special Status Species

Special status species of vertebrates (such as birds, fish, mammals) and invertebrates (such as mollusks, insects) occur on public land within the planning area. Special status designations are assigned for many reasons, including limited distributions, habitat losses resulting from environmental impacts, suspected or documented population declines, or some combination of these factors.

The USFWS list of threatened species and species of concern for the planning area are shown in Table 3-14. For brief notes on habitats by species, refer to Table 3-15. All three listings are used to prioritize survey efforts by the BLM. The opinions of private organizations, such as the Nevada Natural Heritage Program, are considered in the process of determining BLM, state, and USFWS lists.

Table 3-14. Threatened Species and Species of Concern that May Occur in the Black Rock Desert-High Rock Canyon Emigrant Trails, NCA, and Associated Wilderness Areas

Threatened Species	
Fish	
Desert dace	<i>Eremichthys acros</i>
Lahontan cutthroat trout	<i>Oncorhynchus clarki henshawi</i>
Candidate Species	
Invertebrate	
Springsnails	<i>Pyrgulopsis militaris</i> (proposed)
	<i>Pyrgulopsis umbilicata</i> (proposed)
	<i>Pyrgulopsis notidicola</i>
	<i>Pyrgulopsis limaria</i> (proposed)
	3 undescribed <i>Pyrgulopsis</i> spp. (proposed)
	1 undescribed <i>Fluminicola</i> spp (proposed)
Species of Concern	
Mammals	
Pygmy rabbit	<i>Brachylagus idahoensis</i>
Pale Townsend's big-eared bat	<i>Corynorhinus townsendii pallescens</i>
Pacific Townsend's big-eared bat	<i>Corynorhinus townsendii townsendii</i>
Spotted bat	<i>Euderma maculatum</i>
Small-footed myotis	<i>Myotis cilioabrum</i>
Long-eared myotis	<i>Myotis evotis</i>
Fringed myotis	<i>Myotis thysanodes</i>
Long-legged myotis	<i>Myotis volans</i>
Yuma myotis	<i>Myotis yumanensis</i>
California bighorn sheep	<i>Ovis canadensis californiana</i>
Preble's shrew	<i>Sorex preblei</i>
Birds	
Northern goshawk	<i>Accipiter gentiles</i>
Western burrowing owl	<i>Athene cunicularia hypugea</i>
Sage grouse	<i>Centrocercus urophasianus</i>
Black tern	<i>Chidonias niger</i>
Least bittern	<i>Ixobrychus exilis hesperis</i>
White-faced ibis	<i>Plegadis chichi</i>
Invertebrate	
Nevada viceroy	<i>Limenitus archippus lahontani</i>
Springsnail	<i>Pyrgulopsis</i> spp.
	<i>Pyrgulopsis gibba</i>
	3 undescribed <i>Pyrgulopsis</i> spp.
	1 undescribed <i>Fluminicola</i> spp.

Table 3-15. Notes and Habitat Descriptions of Special Status Species

Common name	Brief notes about the species and habitat issues of concern
Desert dace	Associated with geothermal springs in the vicinity of Soldier Meadows. Prefers moving water with and without aquatic vegetation. Sensitive to impacts to seven geothermal spring sources and the subsequent out streams.
Lahontan cutthroat trout	Threatened species that inhabits Colman Creek and the Mahogany Creek watershed. Proposed for reintroduction in several other planning area watersheds. Though fairly temperature tolerant, benefits from intact riparian cover and meadows; subject to habitat impacts from wildfires, grazing, and other human uses.
Pygmy rabbit	Great Basin sagebrush habitats with deep loamy soils. Sensitive to brush control in Great Basin sagebrush habitats.
Pale Townsend's big-eared bat Pacific Townsend's big-eared bat Spotted bat Small-footed myotis Long-eared myotis Fringed myotis Long-legged myotis Yuma myotis	Uses natural caves and cracks in rimrock and man-made mines for breeding, rearing, and/or hibernating habitat. Bats are very susceptible to human disturbances.
California bighorn sheep	Present in canyon lands and mountain ranges in the planning area. Reintroduced extensively in the planning area since the 1980s. Contact with domestic sheep and human recreation are factors to avoid.
Preble's shrew	Prefers riparian habitats. Sensitive to riparian habitat conditions.
Northern goshawk	Breeding occurs in Mahogany Creek watershed aspen stands. Found in a variety of dense, mature, or old growth aspen habitat. Requires large area, healthy multistory aspen stands. Main impact is loss of aspen habitat.
Western burrowing owl	Typically breeds in burros associated with deep soil types. Human disturbances during nesting season are the greatest risk.
Sage grouse	Fairly common in tall and short sagebrush habitat varieties interspersed with meadow complexes. Populations are low in contrast to historical records according to NDOW. Requires extensive sagebrush cover for forage and shelter, healthy meadows for succulent forage and insect food sources, herbaceous cover in sagebrush stands for nesting. Primary risk is a loss of sagebrush cover.
Black tern	Associated with open water wetlands. Potentially a breeder and/or migratory visitor. Nests on floating marsh vegetation. Habitat is fresh water marshes and lakes. Little potential habitat in planning area.
Least bittern	Potential breeder. Nest is a flimsy platform among tules and reeds. Habitat is fresh water marshes and reedy ponds. Little potential habitat in planning area.
White-faced ibis	They are seen occasionally as migrants throughout the country in the fall. Nests in marshes (mainly hardstem bulrush); feeds in marshes and meadows. Little potential habitat in planning area.
Nevada viceroy	A butterfly that prefers willows and aspen stands. Major threats are loss of riparian areas, meadows, and aspen wood edges.
Spring snails	Minute freshwater snails associated with high-quality spring water. Alterations of riparian vegetation, springpool, and/or outlet channel morphology are the major risk factors.

3.12.3.7.1 Sage-grouse (*Centrocercus urophasianus*) (BLM Sensitive Species)

Sage-grouse is a large upland game-bird species that breeds in areas known as leks, where numerous males perform mating displays to attract females. Leks are typically within close proximity to nesting and brood-rearing habitat and are often considered an excellent reference point for monitoring and habitat protection measures. Sage-grouse habitat is indicated on Map 3-10. NDOW considers northwestern Nevada to be important sage-grouse habitat. Historic records, which are mostly anecdotal and lack systematic survey data, indicate that sage-grouse populations have fluctuated widely in Nevada. NDOW has indicated that the current population is considered to be declining.

In much of the popular and scientific literature, sage-grouse are considered an indicator species or “icon” of the sagebrush steppe. The Partners in Flight Western Working Group (Altman and Holmes 2000) consider sage-grouse a species of focus. This document highlights sage-grouse as a species that occupies habitats that have declined substantially within the interior Great Basin since historical times. Sage-grouse are wide ranging, and they occupy upland, meadows, and riparian habitats. It is for this reason that sage-grouse are identified as the primary indicator or umbrella species for sagebrush habitats in this plan.

This species is highly dependent on the presence of several species and subspecies of shrubs, notably Wyoming, mountain, and Great Basin sagebrush. Other species such as low sagebrush are also important. Nesting tends to occur at mid-elevation habitats that support adequate shrubby and herbaceous plant cover (Connelly et al. 2000). Nesting habitats are typically associated with big sage/low sagebrush habitat complexes. Spring, summer, and fall ranges with a good compliment of native grasses and forbs are associated with productive sage-grouse habitat. During the winter, sage-grouse forage almost exclusively on either big sagebrush or low sagebrush depending on severity of snowfall and migratory habits of populations.

Mountain meadows, riparian areas, and moist upland range sites all provide sources of succulent

green forage and insects that are important food for grouse during the spring, summer, and fall. Sage grouse habitat and breeding complex monitoring is an ongoing effort that NDOW and BLM have participated in jointly for several years.

3.12.3.7.2 California Bighorn Sheep (*Ovis canadensis californiana*) (BLM Sensitive)

Bighorn sheep typically prefer remote and complex mountainous terrain where adequate water is available. Because of spatial separation in habitat preferences among deer, pronghorn, wild horses, cattle, and bighorn sheep, forage competition in this planning area is generally limited (Ganskopp 1983). Known areas of overlapping cattle and bighorn sheep use have not presented issues of forage availability or disease transmission requiring resolution. Domestic sheep grazing/trailing permits do not occur with currently occupied bighorn sheep range, so the risk of disease transmission between domestic sheep and bighorn sheep is limited. Disease transmission between bighorn sheep and domestic sheep can result in massive bighorn sheep losses.

Due to a number of factors, bighorn sheep were nearly eliminated from northern Nevada by 1915. Existing populations are the result of numerous NDOW-initiated reintroductions and supplemental releases that began as early as 1963. Data for the NCA and associated wilderness area all show excellent fall recruitment of lambs, which is indicative of bighorn sheep populations that are healthy and very viable. The bulk of their occupied range is associated with the canyonlands and rimrock areas of mountain ranges in the planning area.

3.12.3.7.3 Lahontan Cutthroat Trout (*Oncorhynchus clarki henshawi*) (Federally Listed Threatened Species)

Existing entirely within the NCA are four streams and a portion of seven others that are considered occupied or potential habitat for Lahontan cutthroat trout, *Oncorhynchus clarki henshawi*, a federally listed threatened species since 1975 (Federal Register Vol. 40, p. 29864). Summer Camp, Colman, the North Fork of Battle, and Mary

Sloan Creek are completely within the NCA and are currently occupied by a population of Lahontan cutthroat trout. Donnelly Creek is also within the NCA, and although no Lahontan cutthroat trout currently inhabit the stream, it is listed as a Lahontan cutthroat trout recovery stream and is managed in accordance with the 1995 Lahontan cutthroat trout Recovery Plan (USFWS 1995). Snow, Mahogany, and the North Fork of Jackson Creek, which are listed as Lahontan cutthroat trout recovery streams (USFWS 1995), exist partially within the NCA and are occupied by Lahontan cutthroat trout. Paiute, Bartlett, and Happy Creek are partially encompassed by the NCA planning area and are listed as Lahontan cutthroat trout recovery streams.

Life History Requirements

The Lahontan cutthroat trout inhabit lakes and streams but require streams to spawn. Intermittent tributary streams are frequently used as spawning sites (Coffin 1981; Trotter 1987). Spawning generally occurs from April through July, depending on stream flow, elevation, and water temperature (Calhoun 1942; La Rivers 1962; McAfee 1966; Lea 1968; Moyle 1976). Eggs are deposited in one-quarter to one-half inch gravels within riffles, pocket water, or pool crests. Spawning beds may be well oxygenated and relatively silt free for good egg survival. Fry remain in shallow bank-line areas with small gravel/cobble for cover. By early fall, the small fingerlings may school together in shallow pools.

Stream dwelling Lahontan cutthroat trout are generally less than 5 years of age; while in lakes, Lahontan cutthroat trout may live as long as 9 years.

Optimum Lahontan cutthroat trout habitat is characterized by equal mixes of pools and riffle, well-vegetated stable streambanks, more than 25 percent cover, and a relatively silt-free gravel/rubble substrate (Hickman and Raleigh 1982), but the subspecies inhabits a wide range of less than optimal habitat conditions. They tolerate higher alkalinities than other trout species and can survive wide daily temperature fluctuations (25 to 35 °F). Dunham et. al. (1999) note that most Lahontan cutthroat trout populations have a distribution limit corresponding closely to maximum summer temperatures of 78 °F.

Populations in less than optimal habitat may be present but with reduced numbers and age classes.

In some streams, Lahontan cutthroat trout have been observed in water temperatures exceeding 81 °F but have been observed dying at 82 °F in other streams during August. In Willow Creek, Oregon, Lahontan cutthroat trout have been observed in warmer waters (daily maximum of 83 °F) than observed in other streams. In general, Lahontan cutthroat trout appear to avoid maximum water temperatures of 78.8 °F, if possible (Dunham et. al. 1999). Dunham et. al. (1999) recommend that water temperatures for Lahontan cutthroat trout should not equal or exceed a daily maximum of 72 °F to minimize risk of mortality and sublethal thermal stress.

Lahontan cutthroat trout are opportunistic feeders. In small streams, they feed on terrestrial and aquatic insects, which are caught in the drift. Fish larger than 12 inches in larger water bodies turn to a fish diet where available (Sigler and Sigler 1987). In 1971, observations indicated that two cyprinid species of fish had become established in Summit Lake, thereby establishing a forage/prey base for this lacustrine population.

The population recovery strategy for Lahontan cutthroat trout includes population management for genetic variation, and increasing the distribution and abundance through reproduction and reintroductions. The strategy also includes habitat management designed to improve habitat conditions.

3.12.3.7.4 Desert Dace (*Eremichthys acros*) (Federally Listed Threatened Species)

Life History Requirements

Desert dace occupy a variety of habitats in Soldier Meadows, including spring pools, spring outflow streams, alkali marsh areas, and earthen irrigation ditches. They have the highest temperature tolerance of any minnow in western North America (Nyquist 1963) and occupy habitats that vary in temperature from 64 °F to 104 °F. Water temperature is a determining factor in desert dace distribution within a spring system. Cooler habitats (73 °F to 84 °F) downstream of springheads generally have the highest fish densities.

Within the outflow streams, desert dace occur predominantly in upstream sites with higher velocities, but also occupy lower velocity reaches where water temperatures are relatively high (Vinyard 1988).

Dace may be distributed as far as 1.5 miles downstream of a springhead (Vinyard 1988); however, distribution apparently shifts seasonally according to water temperature. In the summer, springhead pool temperatures may exceed desert dace tolerance limits and the fish move downstream. As stream temperatures decrease in winter, the species' range contracts upstream.

3.13 VISUAL RESOURCES

BLM uses visual resource management (VRM) in the planning area to manage the quality of the landscape by minimizing potential impacts to visual resources resulting from development activities. The objectives of these classes vary from very limited management activity (e.g., Class I) to activity that allows major landscape modifications (e.g., Class IV).

All Wilderness Areas and the Wilderness Study Area within the plan boundary are currently managed as Class I. The playa, South Playa, the High Rock Lake area, and a corridor along the western edge of the Black Rock Range are managed as VRM Class II. The remainder of the planning area is classified as VRM Class IV, including High Rock Canyon, the area between the Calico and Black Rock Ranges, Soldier Meadow, the northwest corner of the planning area from Vya to the wilderness boundaries and the southeast corner of the planning area from Rye Patch to the Union Pacific Railroad Line, Trego Hot Springs, and Rabbitole Springs. (See Map 3-12 for VRM classes.)

The planning area allows for long viewing distances. One of the most dominant landscape features of the planning area is the playa. Viewed from its midst, the playa extends in an expansive, boundless manner in all directions. Very few human-made features intrude into the landscape. It is this pristine vastness that appeals to most recreational users.

The planning area is viewed differently from the Applegate-Lassen Emigrant Trail than from the playa and other locations. Not only are the visual perspectives different, so are the purposes and perspectives of the many visitors who visit the trail. Recreationists traveling along segments of the trail, especially during emigration re-enactments, are able to relate to the emigrant experience, largely as a result of the relatively untouched scenic vistas. Throughout most of the southern planning area, the beach terraces of Lake Lahontan are visible.

The most visible human-made features in the planning area are the railroad track and power line along the southern plan area; all the major access

roads, and many roads and ways; the Applegate-Lassen Emigrant Trail; Steven's Camp; Jackson, Wheeler, Soldier Meadow, and Massacre ranches; the opal and geode mines; a few private residences to the north; and fences. The town of Gerlach lies outside the plan boundary, yet it is visible from within the plan boundary. The Highcroft Mine at Sulphur is also visible from the planning area. Many of the human-made features are located in and/or are visible from the southern plan area. By contrast, the central and northern portions of the plan area have fewer human intrusions. The ranch landscapes typically include small dwellings, outbuildings, barns, fences, trees, corrals, and fields. They are all situated on private lands, and only the larger features (such as trees) are visible from a distance.

3.14 WATER RESOURCES

3.14.1 WATERSHEDS

The planning area lies within portions of several separate watersheds located within the Great Basin Hydrologic Region (Region 16). The majority of the planning area is contained within the Quinn River Watershed, Lower Quinn River Sub-Basin (Map 3-13).

3.14.2 SURFACE WATER RESOURCES

The planning area falls within the Great Basin physiographic province and can be accurately described as a high desert. Precipitation within the area is orographically (induced by the presence of mountains) controlled and elevation dependent.

3.14.2.1 Streams

The planning area has numerous intermittent and perennial (year-round) streams. About 100 miles of perennial streams are in the planning area.

Perennial streams include Donnelly Creek, Cherry Creek, Slumgullion Creek, Soldier Creek, Mud Meadow Creek, Colman Creek, Jackson Creek, Mahogany Creek, Summer Camp Creek, Snow Creek, Deer Creek, Happy Creek, and a portion of High Rock Canyon drainage. Although it is not perennial, the Quinn River is the major drainage feature of the planning area. Most stream flows are generated from springs in stream headwaters and runoff from winter and spring precipitation. Summer storm events are not a significant input to the yearly flow regime in the planning area. Base flows for these streams are generally less than 1 cubic foot per second, with average yearly flood stage at less than 10 cubic feet per second. The location of the watersheds creates streams of moderate-to-high gradients with low-to-moderate sinuosity and bed materials ranging from silt-sand to large boulders. Deep, incised channels characterize most streams. Most lotic (flowing water) systems are functioning at risk as a result of past land management practices, including livestock grazing, water diversion impoundments, mining, road placement, and OHV use.

The upper watersheds in the Calico Mountains and Black Rock Range are characterized by small spring and meadow complexes, which for the most part are functioning at risk. Limiting factors include adverse effects from livestock and wild horse grazing, road intersections, and OHV use.

The majority of stream flow is derived during the spring in direct response to the melting of the snow pack. Typical stream flow dynamics for the planning area is for flow to originate at the upper elevations and enter the stream by way of overland flow and shallow ground water discharge (interflow). As this flow exits the mountains onto the alluvial fan, it quickly sinks below the surface. Riparian vegetation exists in the mountainous areas before the water goes underground.

3.14.2.2 Lakes and Playas

Two intermittent lakes are within the planning area: High Rock Lake and Dry Lake. High Rock Lake is shallow; at capacity, it is no more than a few feet deep. Its surface area is highly variable, dependent on amount, duration, and timing of precipitation. A Pleistocene era landslide that truncated the High Rock Canyon drainage and impounded the streamflow created the lake. During

extremely wet periods, the lake will fill, and drainage will continue down Fly canyon. In contrast, Dry Lake is a topographically low feature with no external drainage. It collects precipitation and snowmelt to create a seasonal pond with minor amounts of riparian vegetation. Dry Lake's contributing watershed is limited, and its influence on the hydrologic regime is localized.

Three private reservoirs in the planning area are Mud Meadow Reservoir, Wheeler Reservoir, and Jackson Reservoir.

The Black Rock Playa and other small playas collect water during portions of the year. The Black Rock Playa is a remnant of the Pleistocene Lake Lahontan and the terminal sink for the Quinn River. The playa itself is the dominant landform feature of the planning area, and it serves as the center for dispersed recreational opportunities and special recreation permits. As a surface water resource, the playa is frequently inundated by snowmelt runoff in the spring and the southern end is commonly moist. The moisture is attributed to the discharge of groundwater by evaporation. The extent and duration of the standing water on the playa varies depending on weather conditions such as annual precipitation and temperature regimes.

3.14.2.3 Springs, Seeps, and Wells

Cold water and thermal (hot) springs, seeps, and flowing (artesian) wells are common and significant attributes of the plan area. These water sources originate as precipitation and appear on the land surface as ground water discharge in various situations, as listed below:

- Where the land surface intercepts a water table
- Where ground water flow intercepts an impermeable barrier
- As an artesian flow where water is forced to the land surface because of certain subsurface conditions, such as the presence of faults that allow ground water to circulate at depths where it will be heated, returning to the surface as hot springs
- As an unrestrained artesian flow (flowing wells) at locations where a dug or drilled well intercepts ground water in an aquifer with sufficient pressure to flow to the surface under its own power.

Perched or contact springs are the most common type of spring encountered. The source water for these springs is infiltrating precipitation that has been captured and concentrated in areas where fractured or unconsolidated material is underlain by less permeable material (aquifers) that inhibit the downward migration of water. These springs emanate at locations where the aquifer intersects the surface of the ground and the “perched” water seeps out. These springs are not directly connected with the surrounding water table and are generally unaffected by ground water flow.

Coldwater springs are located throughout the planning area. A less common, but ecologically and culturally significant spring that is encountered in the planning area is the thermal spring. Garside and Schilling (1979) characterize the entire Basin and Range physiographic province as having high heat flow. Shevenell and others (2000) map warm and hot wells and springs and industrial applications of geothermal resources. They indicate warm or hot wells or springs in virtually every hydrographic basin in the planning area.

Major hot springs within the plan area are Double Hot Springs, Trego, Black Rock, Soldier Meadow, Twain (a.k.a. McFarlan’s) and Hardin City. Other hot springs located adjacent to the planning area, or on private land include Great Boiling Spring, Pinto Hot Spring, and numerous unnamed hot springs at Soldier Meadows. The geothermal potential associated with hot springs in the plan area is described in the Energy and Mineral Section, under Geothermal Potential. Other resource values of these hot springs are discussed in cultural, wildlife and fisheries, and the Soldier Meadow Activity Plan (USDI 1998). Although very alkaline, thermal spring water is used for stock drinking water and bathing. The BLM discourages bathing in thermal spring water.

Springs, seeps, and flowing wells are of considerable significance in the natural and cultural history of the Black Rock Desert. During prehistoric and historic times, Native Americans used them as water sources, special places for bathing, healing, sacred purposes, and warmth during cold weather. Routes of 19th century explorers, soldiers, and emigrants were dictated by the location of springs. Several thermal spring pools were modified to create a channel in which water would cool sufficiently for stock use. Food was cooked directly in thermal springs.

Wildlife, amphibians, fish, and birds depend on the vegetative habitat around these water sources, which includes wiregrass, alkali bullrush, cattails, and various species of rushes and sedges. Bacterial inhabitants of the springs, particularly the thermal ones, are the subject of an ongoing study.

Bathing and camping use of hot springs areas has caused some detrimental effects on water quality, riparian vegetation, and dace around the hot springs. Grazing animals also affect the water quality of the spring complexes.

3.14.3 GROUND WATER RESOURCES

The Nevada State Water Engineer administers ground water resources in Nevada by hydrographic basin. Within the planning area boundary, ground water development density is relatively minimal. Generally, the current level of demand for ground water within the planning area is being met by a limited number of wells for ranch and livestock use.

3.14.4 WATER QUALITY

Within the planning area the primary source of water quality degradation is nonpoint source pollution (NPS), with the primary contributions coming from grazing (livestock and wild horses), recreation, and OHV use. Nevertheless, water quality in the planning area is generally suitable for irrigation, domestic, and stock use. Of the three components of water quality (chemical, physical, and biological), the physical and biologic components are influenced the most by activities authorized by BLM.

3.14.4.1 Surface Water Quality

Surface water quality is determined by geology (including salinity) and by human activity. Ongoing water quality monitoring within the planning area shows that the contaminants most often elevated are coliform bacteria and turbidity (sediment load). However, no waterbodies in the planning area are included on the state 2002 303d list as impaired. However, several water sources are

habitat for threatened and endangered species that do warrant special water quality attention.

3.14.4.2 Ground Water Quality

Ground water quality within the planning area is unaffected by current management activities of the BLM. The quality of water in the ground water system is good, but the chemical character and quantity of ground water is determined by the mineral content of the rock that the water flows across or through. Ground water quality in the planning area varies with the geology of the local area. Ground water quality may also be negatively affected by temperature or soil salinity.

3.15 LANDS AND REALTY

3.15.1 LAND TENURE

The plan area encompasses approximately 1.2 million acres. Land ownership status is detailed in Table 3-16. Private lands within the planning area consist primarily of small parcels. Some private land is used for agricultural production or is located near springs.

Table 3-16. Planning Area Land Ownership and Management Status

Designation	Acreage
Wilderness and WSA	764,222
Total NCA	815,068
Total Private Acres	17,740
Total Federal	1,220,821

In 1993, BLM acquired 4,987 acres of private land formerly associated with the Soldier Meadow Ranch.

BLM also acquired a conservation easement on 5,024 acres of private lands still associated with the Soldier Meadow Ranch. Soldier Meadow Ranch is a large ranching operation that is primarily involved in the cattle industry. The ranch also operates as a dude ranch and a bed and breakfast business. The conservation easement preserves and protects the natural, historic, scenic, and open space features and values of the property. Characteristics of the ranch include desert dace habitat and historical ranching activities.

In addition, Surprise Field Office has acquired the Massacre Ranch and Steven's Camp sites within the planning area.

As opportunities arise, BLM will consider acquiring private lands interspersed with public lands. If initiated by a landowner or representative, BLM will consider acquiring lands that hold high cultural or natural values, including habitat for threatened and endangered species. Land acquisitions are considered on a case-by-case basis through exchange, purchase, or donation.

3.15.2 UTILITY CORRIDORS

There is a designated utility corridor in the vicinity of the Black Rock Desert Playa from Sulphur to Gerlach adjacent to the Union Pacific Railroad tracks. A second utility corridor crossing the neck of the planning area along the existing LADWP transmission line (see Map 3-14).

3.15.3 RIGHTS-OF-WAY

Six existing rights of way are within the planning area (see Map 3-14). The Union Pacific R.R. ROW (200' width), the U.S. Sprint ROW (10' width), and the Sierra Pacific Power Company ROW (75' width) are located within the Union Pacific Transportation corridor on the southern edge of the planning area. The Washoe County-Gerlach/Hualapai Road ROW (100' width) and the Nevada Bell Fiber Optic ROW (20' width) are located on the southwestern boundary of the planning area near Gerlach. The remaining right of way is the Los Angeles Department of Water and Power – 1,000 KV ROW. This ROW, which contains both a transmission line (200' width) and access road (50' width), crosses the "neck" of the planning area to the east of Vya.

3.15.4 SEGREGATED LANDS

Segregated lands, which are lands removed from various forms of disposal, may include removal from location under the general mining laws. Within the planning area, the only area of segregated lands is the Lahontan cutthroat trout Wilderness Study Area. Lands within the Wilderness Study Area are segregated; acquired lands within the Wilderness Study Area, and the remainder of the *Lahontan cutthroat trout area* are **not** segregated.

3.15.5 CADASTRAL

Cadastral survey of the entire planning area has not been completed. About 33 percent of the

area was surveyed before 1910, 38 percent of the area was surveyed after 1910, and roughly 28 percent remains without a cadastral survey.

3.15.6 PERMITS

Currently no permits for access to wilderness inholdings have been issued.

Commercial and noncommercial activities, including photography and filming permits, have been issued in the past, primarily on the Playa.

3.16 MINERALS RESOURCES

Subject to valid existing rights, federal lands within the NCA and designated Wilderness Areas are withdrawn from location under the mining laws, mineral leasing laws, and the mineral materials laws. The NCA remains open to the mineral materials laws, but only the use of gravel for road maintenance may be permitted. Mineral potential will be discussed for only those energy and mineral holdings, within the NCA and Wilderness Areas, where reasonable foreseeable development scenarios are forecast.

Energy and mineral potential for the South Playa Area and the sliver portion of the Lahontan cutthroat trout area will be discussed as these areas are open to location under the mining laws, mineral leasing laws, and mineral material laws. Because of the very limited amount of open federal land (100 to 400 foot) on either side of the wilderness-designated routes, mineral potential will not be discussed for these areas because it would not be feasible to conduct energy and mineral operations within such limited space. Exceptions will be made for the mineral materials laws on a case-by-case basis where the use of mineral materials may be needed for road construction and maintenance.

3.16.1 LOCATABLE MINERALS

Locatable minerals being mined in the plan area are precious opals and specimen geodes. Potential exists for several metallic minerals and nonmetallic minerals.

3.16.1.1 Active Mining Claims and Associated Grandfathered Mining Permits

As of July 2002, there were 73 active mining claims in the plan area, totaling 1,255 acres. Four active mining notices are filed under the 43 CFR 3809, Surface Management Regulations. These mining notices are only authorized to continue until January 20, 2003, and can disturb up to 5 acres. On or before that date, the operators will either have to reclaim and close their notice or extend or modify their notice and establish a financial guarantee. Three use and occupancy permits have been filed under the 43 CFR 3715, Use and Occupancy Regulations. The three use and occupancy permits have not been approved pending mining claim, valid existing rights determination (see Map 3-15). Listed below are the acres of active mining claims, their location, and associated mining permits.

Table 3-17. Active Mining Claims and Associated Grandfathered Mining Permits

Geographic Area	Legal Description	Number of Claims	Acres	3809 Notice	3715 Use
NCA (Wagner Spring)	T37N, R25E, Sec.5 NE and Sec.4 NW	6	120	2	2
NCA (Wagner Spring)	T38N, R25E, Sec.32 SE	2	40		
NCA (Willow Creek)	T38N, R24E, Sec.1 NE and SE; T39N, R25E, Sec.31 SW; T38N, R25E, Sec.6 NW; T39N, R24E, Sec.36 SE.	19	380	1	1
NCA (Central, Black Rock Range)	T37N, R27E, Sec.30 SE	5	100	1	
NCA (Cassidy Mine)	T34N, R24E, Sec.14 NW	4	80		
NCA (South Tail; East, Kamma Mtn.)	T33N, R30E, Sec.7 SE	10	160		
NCA (South Tail, Antelope Summit)	T33N, R31E, Sec.30 SW	9	123		
Little High Rock Canyon Wilderness (Willow Creek)	T38N, R23E, Sec.22 NW and Sec.21 NE	3	60		
Pahute Peak Wilderness (West, Big Mtn.)	T39N, R25E, Sec.23 SW	3	60		
Calico Mtns. Wilderness (Division Peak)	T37N, R24E, Sec.19 SE	2	4		
So. Jackson Mtn. Wilderness (West, Navajo Peak)	T38N, R30E, Sec.23 NE and NW	10	128		
Total		73	1,255		

3.16.1.2 Open Mining Permits Not Associated With Active Mining Claims

Before wilderness designation, one mining plan was approved in the Pahute Peak Wilderness. Active mining claims associated with this plan were closed, but the plan remains open. Two mining notices and one use and occupancy permit remain open in the South Tail of the NCA that are not associated with any active mining claims (see Map 3-15). Reclamation needs to be completed to close the open permits.

Although the NCA and Wilderness Areas have been withdrawn from mineral entry, valid existing rights are recognized. Mineral developments and claims exist in portions of the planning area (Table 3-17). To predict the potential for the development of minerals within the planning area, a reasonably foreseeable development (RFD) scenario has been developed. To a large degree, the Act limits the development of minerals within the planning area; however, this RFD anticipates mineral development for valid existing rights and areas outside the NCA.

3.16.2 LOCATABLE MINERAL POTENTIAL

Because the NCA and Wilderness areas are withdrawn from locatable minerals, only the mineral potential for the South Playa and the sliver portion of the Lahontan cutthroat trout Wilderness Study Area will be addressed in this section.

The remainder of the Lahontan cutthroat trout Wilderness Study Area was closed to locatable minerals pursuant to the Mahogany Creek, Classification and Multiple-Use Act (C&MU) on May 20, 1968, and the Lahontan cutthroat trout Wilderness Study Area. Acquired lands are withdrawn from locatable minerals. Mineral potential for open Federal lands (100 to 400 feet wide) along wilderness designated routes will not be discussed because it is not feasible to conduct minerals operations within such narrow corridors.

The U. S. Geological Survey (USGS) and the U. S. Bureau of Mines (USBM) have conducted studies and/or mineral assessments of the

Winnemucca BLM District (Peters et al. 1996) and more specifically the plan area (Koski 1998, Miller 1993).

The USGS has developed the following three-part method for assessing mineral resources:

Mineral potential tract maps delineate areas mineral deposits may occur based on known geology and the mineral deposits associated with that geology

Estimates are made of the number of deposits within each delineated tract

Estimates are made of the amount of metal present by means of the applicable grade tonnage models available for each of the various types of deposits.

Readers are directed to Peters et al. (1996) for a detailed discussion of the mineral assessment methodology and the type of mineral deposits likely to occur in this region.

The 1998 assessment includes a quantitative assessment (see Table 3-18), and mineral potential tract maps outlining no potential (nonpermissive), low potential (permissive), medium potential (favorable), and high potential (prospective) areas for hot spring mercury, hot spring gold-silver, and low sulfide gold-quartz deposits in the plan area. A favorable area was drawn for polymetallic vein deposits, but no quantitative assessment was made for that deposit type.

The estimate of the amount of mercury occurring within the plan area is approximately 9.2 metric tons (about 270 flasks). Estimates for the amount of metal occurring in the hot spring gold-silver deposits are about 20 metric tons (about 630,000 troy ounces) of gold and about 76 metric tons (about 2.4 million troy ounces) of silver. The metal content of the low sulfide quartz-gold deposits is estimated to be about 0.01 metric tons (about 310 troy ounces) of gold and about 0.002 metric tons (about 50 troy ounces) of silver (Koski 1998).

Based on these estimates, and for purposes of analysis, it is assumed that one mineral deposit with roughly 3 million troy ounces of gold, silver, and mercury could occur within the planning area.

Other deposit types (such as porphyry copper, porphyry molybdenum, base metal skarns, tungsten skarns, and volcanogenic uranium) were judged by the USGS to have very low expectation that an undiscovered deposit exists in the planning area.

Mineral potential tract maps for these deposits are available from the Peters et al. (1996) assessment. From the mineral potential maps, digital GIS data was used to calculate the acreages of mineral potential for the South Playa (Table 3-19) and the sliver area (Table 3-20).

3.16.2.1 Industrial Minerals, Gems, Semiprecious Stones, and Petrified Wood

Minerals specialists in the Winnemucca BLM Field Office developed an assessment of the potential for occurrences of these minerals in the plan area. The geologic setting of previously documented and published occurrences and investigations in the region was noted, and potential tracts were developed for the South Playa Area and the Lahontan cutthroat trout Wilderness Study Area Sliver based on associations with geologic units. The acreages were calculated based on GIS digital data obtained from the U.S. Geological Survey geologic map of Nevada (Stewart and Carlson 1978). Tables 3-21 and 3-22 indicate the potential in acres for occurrence of the various commodities in the South Playa Area and the Lahontan cutthroat trout Area Sliver.

High-Quality Locatable Clays: High-quality clays include montmorillinite, bentonite, and fullers earth deposits, which commonly occur in hydrothermally altered Miocene and Pliocene volcanic rocks (Papke 1970). Such a deposit has been documented at the Rosebud gold mine, 3 miles northeast of the NCA tail. Therefore, it seemed reasonable to use the hot spring potential maps as potential areas for the occurrence of the clays.

Fluorite: An occurrence of fluorite has been documented in the Black Rock Range south of Copper Canyon (Miller 1993). Potential is based on the U.S. Geological Survey (Peters et al. 1996) tracts maps for tungsten and copper-molybdenum.

Lithium: Based on the anomalous occurrences of lithium noted in the east arm of the Black Rock Desert, and north of Gerlach on the playa (Nash 1996), it is believed that the South Playa Area has medium potential. Volcanic rocks and related sediments near calderas, ring fractures, and moat sediments are also of medium potential; other volcanic rocks are considered low potential. These

types of rocks occur in the Lahontan cutthroat trout Area Sliver.

Sulfur: Historically, sulfur was mined at the site of Sulphur 3 miles east of the NCA tail. This same area is now the site of the Highcroft open pit gold mine. These sulfur deposits are associated with a hot springs gold deposit.

Precious Opal, Gems and Semiprecious Stones, and Petrified Wood: The Black Rock Opal ADI was outlined by Neumann and Close (1985) and by Noble and others (1988). Precious opal, present as small percentages of common opal, occurs as fillings in amygdaloidal basalts of Miocene age in a north-trending zone for 8 miles along the eastern flank of the Calico Mountains between Donnelly Creek and Willow Creek. Much of this zone is located within the NCA. Currently, two active opal mines are operating on federal lands within the NCA. One patented opal mine within the NCA is occasionally mined. The opal is extracted by hand using hammers, chisels, and pry bars to carefully break apart the basalts and remove the opal. The opal is mined by the owners, rockhounds, recreationists, mineral collectors, and jewelry makers.

Common opal, petrified wood, agate, jasper, chert, chalcedony, and geodes also occur abundantly, primarily in the Calico Mountains and Black Rock Range where rock-hounding and collection of these semiprecious rocks is a popular recreational activity. A geode mine is in production on the east flank of the Black Rock Range, within the NCA.

**Table 3-18. Mineral Resource Assessment Probability
for the Black Rock Desert Plan Area**

PROBABILITY (%)	Estimated Number of Deposits		
	Hot Spring Mercury	Hot Spring Gold-Silver	Low Sulfide Gold-Quartz Vein
90	0	0	0
50	0	0	1
10	0	1	2
5	1	2	2
1	2	3	2

Source: Koski 1998

Table 3-19. Metallic Mineral Potential in the South Playa Area

Deposit Type	Potential in Acres			
	High	Moderate	Low	No
Placer gold	0	0	14,671	0
Hot spring (Au,Ag,Hg)	0	0	1,758	12,912
Massive sulfide		0	7,557	7,114
Polymetallic veins	0	3,619	4,562	6,490
Skarn	0	6,781	776	7,114
Tungsten	0	7,557	0	7,114
Porphyry	0	80	7,477	7,114
Low sulfide gold	0	650	7,532	6,490

Source: Digital GIS files (Peters et al. 1996 and Koski 1998).

Table 3-20. Metallic Mineral Potential in the LCT Area Sliver

Deposit Type	Potential in Acres			
	High	Moderate	Low	No
Hot spring (Au,Ag,Hg)	0	0	2,349	0
Uranium	0	0	2,349	0

Source: Digital GIS files (Peters et al. 1996 and Koski 1998).

3.16.2.2 Areas of Development Interest

A study conducted by U.S. Bureau of Mines identified Areas of Development Interest (ADI) for locatable minerals within the plan boundary (Miller 1993). These ADIs are located in areas that have historical workings or recorded production, current operations, recent exploration activities, where samples taken indicate mineral anomalies, and/or there exists current or past mining claim activity. No ADIs have been identified in the South Playa or the Lahontan cutthroat trout Wilderness Study Area. ADIs within the NCA and wilderness areas will be addressed only in relation to existing mining claims.

Table 3-21. Industrial and Nonmetallic Mineral Potential in the South Playa Area

Mineral/ Commodity	Potential in Acres					
	High	Geologic Unit or Mineral Potential Map	Moderate	Geologic Unit or Mineral Potential Map	Low	Geologic Unit or Mineral Potential Map
High-quality locatable clays	0	High potential hot spring map	0	Moderate potential hot spring map	14,671	Low potential hot spring map
Evaporites and brines	0	N/A	0	N/A	14,671	Qp
Fluorite	0	N/A	7,557	Moderate potential tungsten map	0	Low potential tungsten map
Lithium	0	N/A	14,671	Qp	0	N/A
Sulfur	0	N/A	0	N/A	14,671	Low potential hot spring gold-silver

Note: See Map 3-16 for a description of geologic units.

Note: Acreage calculations are based on either the Mineral Potential Maps or the geologic units with which the mineral or commodity is associated.

Source: Information compiled from digital GIS data from USGS (Peters et al. 1996, Koski 1998) and the Geologic Map of Nevada (Stewart and Carlson 1978).

**Table 3-22. Industrial and Nonmetallic Mineral Potential
in the Lahontan Cutthroat Trout Area Sliver**

Mineral/ Commodity	Potential in Acres					
	High	Geologic Unit or Mineral Potential Map	Moderate	Geologic Unit or Mineral Potential Map	Low	Geologic Unit or Mineral Potential Map
High-quality locatable clays	0	High potential hot spring map	0	Moderate potential hot spring map	2,349	Low potential hot spring map
Placer gold	0	N/A	0	N/A	80	Low potential placer gold map
Lithium	0	N/A	0	N/A,	2,349	Tr2 tertiary rhyolite flows
Sulfur	0	N/A	0	N/A	2,349	Low potential hot spring gold-silver
Perlite/pumice	0	N/A	0	N/A	2,349	Tr2 tertiary rhyolite flows
Precious opal	0	N/A	0	N/A	2,349	Tr2 tertiary rhyolite flows
Semi-precious stones and petrified wood	0	N/A	0	N/A	2,349	Tr2 tertiary rhyolite flows

Note: See Map 3-16 for a description of geologic units.

Note: Acreage calculations are based on either the Mineral Potential Maps or the geologic units with which the mineral or commodity is associated.

Source: Information compiled from digital GIS data from USGS (Peters et al. 1996, Koski 1998) and the Geologic Map of Nevada (Stewart and Carlson 1978).

3.16.3 LEASABLE MINERALS

The NCA and wilderness areas are withdrawn from the mineral leasing; therefore, mineral potential for these areas will not be discussed. Mineral potential for open federal land (100 to 400 feet wide) along wilderness designated routes will not be discussed because it is not feasible to conduct minerals operations within such narrow corridors. The Lahontan cutthroat trout Wilderness Study Area Sliver contains no potential for leasable minerals and will not be discussed further. Only the South Playa Area contains potential for leasable minerals, including geothermal, oil and gas, and sodium and potassium. Table 3-23 lists the areas of potential for geothermal resources and oil and gas for the South Playa Area. Sodium and potassium will not be discussed because the potential is low and is closed to development in the South Playa Area. Leasing of these minerals is a discretionary action.

Table 3-23. Leasable Mineral Potential in the South Playa Area

Commodity	Potential in Acres		
	High	Moderate	Low
Geothermal	14,008	663	0
Oil and gas	0	0	14,671

3.16.3.1 Geothermal

Under existing management, geothermal leasing and development is allowed in the South Playa Area, under the authority of the 1970 Geothermal Steam Act and regulations (43 CFR 3200).

Known Geothermal Resource Areas and Geothermal Leases

There is one geothermal lease containing 920 acres in the South Playa Area. The Gerlach KGRA encompasses 9,600 acres, of which 2,925 acres are within the South Playa Area.

Geothermal Potential

The South Playa Area is located at the western edge of the Battle Mountain heat-flow high, a

region of higher than average heat flow centered on Battle Mountain in the northern Great Basin.

Great Boiling Springs, located immediately north of Gerlach on private lands in the Gerlach Known Geothermal Resource Area, has recorded temperatures ranging from 80 °F to 204 °F from 69 vents. Reservoir temperatures are estimated at 325 °F, with a volume of 3.3 cubic km and 1.46×10^{18} joules of energy content. This indicates a potential to produce 32 megawatts of energy for 30 years (Brook et al. 1978).

The Black Rock Hot Springs and Double Hot Springs form a semicontinuous system about 7 miles long along a north-trending fault zone on the west edge of the southern Black Rock Range within the NCA. About 440 acres of private land are along this trend. Some private land is adjacent to Double Hot Springs. Potential development of geothermal resources from these private lands would likely result in drainage of geothermal resources from adjacent federal lands.

One deep well was drilled by Sundeco in the Gerlach area at Mud Springs in 1979. The well was drilled to roughly 5,800 feet and encountered a maximum temperature of about 200 °F at 3,450 feet near the top of a granodiorite. In 1993 and 1994, San Emidio Resources, Inc., drilled two 3,000-foot observation wells in the Gerlach known Geothermal Resource Area.

3.16.3.2 Oil and Gas

No oil and gas leases exist in the planning area. Oil and gas leasing is a discretionary action.

Oil and Gas Potential

Approximately 14,671 acres of low potential oil and gas occur in the South Playa Area (Barker 1996). Barker has reported an oil seep in the vicinity of Wagon Tire Spring, 12 miles west of High Rock Lake. Two shallow holes and one deep exploration hole have been drilled in the east arm of the Black Rock Desert Wilderness in the vicinity of Sulphur. A 970-foot-deep hole drilled in 1909 slightly northeast of Sulphur had a possible, but unconfirmed, oil show at 845 to 875 feet. The other shallow hole, drilled in 1921 about 3 miles northeast of Sulphur to a depth of 800 feet, had no reported shows (Miller 1993, Murphy 1993). The deep exploration hole was drilled about 15 miles north of Sulphur in the Black Rock Desert

Wilderness. This hole went down about 8,000 feet and had oil shows in core from about 6,880 to 7,050 and gas at 6,894 to 6,930 feet.

3.16.4 SALABLE MINERALS (MINERAL MATERIALS) POTENTIAL

The use of sand and gravel for road maintenance is allowed in the NCA. Mineral material disposal is allowed in the South Playa Area, along wilderness-designated routes, and the sliver portion of the Lahontan cutthroat trout Wilderness Study Area under the authority of the Materials Act of July 31, 1947, as amended, and regulations at 43 CFR 3600. Material site rights of way are granted to the Nevada Department of Transportation under Title 23, Section 317 USC. Mineral material disposals are discretionary actions.

3.16.4.1 Mineral Material Permits and Rights of Way

Four free-use permits for sand and gravel are now authorized within the plan area, and eight other free-use permits are pending authorization (see Map 3-17). Occasional sales to private individuals occur out of the Blue Pit south of Hualapai Flat. Currently, no rock sales are within the plan boundary.

Several types of salable minerals are found within the plan area. Table 3-24 summarizes the mineral material potential in the NCA outside the Wilderness Areas, South Playa Area, Lahontan cutthroat trout Wilderness Study Area Sliver, and designated routes. The most common are sand, gravel, and borrow pit material occurring between 3,900 and 4,200 feet elevation as shoreline features of ancient Lake Lahontan. Alluvial deposits are also common. The entire playa has high potential for the occurrence of common clay. Other potential materials include decomposed granite, granitic decorative boulders, volcanic flat rock, other decorative rock, and common clay.

Production of salable materials from the plan area is focused along the High Road, Soldier Meadow Road, Washoe County Road 34, State Route 8A, and Sulphur/Jackson Road. Sand,

gravel, and borrow pit material are used for road construction and maintenance. Just north and west of Gerlach outside the plan area is a deposit of decomposed granite used by Washoe County for maintenance of local roads and highways.

**Table 3-24. Mineral Material Potential *
(as discussed in Section 3.14.5.1)**

Acres of Potential (rounded to nearest ten)			
Commodity	High	Moderate	Low
Sand/gravel/ borrow pit material	159,017	156,188	155,222
Rock- landscape/de corative	0	156,188	0
Clay, low quality	155,222	0	0

3.16.5 REASONABLE FORESEEABLE ENERGY AND MINERAL DEVELOPMENT

3.16.5.1 Locatable Minerals RFD

Three small opal mines in the Willow Creek and Warner Springs area and one small geode mine in the central Black Rock Range, within the NCA, would likely continue operations under grandfathered permits until valid rights determinations are made. Each mine contains one to two access roads (up to 2 acres each) and one to two small open pits taking in less than 1 acre each. Each mine would likely have one to two small structures and associated storage facilities on site for 6 to 12 months of the year. There may also be full-time occupancies on site of about 1 acre each. Mining would be expected to continue for up to 30 years if determined to be valid.

A 10-percent probability for a hot spring gold-silver deposit could occur in areas of high gold potential and existing mining claims in the NCA Tail and the South Jackson Wilderness. The exiting

mining claims in the South Jackson Wilderness occur in the Red Butte, ADI outlined by the U.S. Bureau of Mines. The two existing claim blocks in the NCA Tail occur in the Scossa and Antelope ADIs. The deposit could consist of about 630,000 troy ounces of gold, and 2.4 million troy ounces of silver. For analytic purposes, it is expected that either an open pit or an underground gold-silver mine of about 3 million total troy ounces would be developed. The open pit gold mine would disturb about 400 to 500 acres and would consist of an open pit heap leach operation with associated waste dumps, access roads, milling or processing facilities, and associated ancillary facilities. Disturbance would be limited to 120 to 160 acres because this is the range of the largest contiguous claim blocks within the Tail area and South Jackson Wilderness. The deposit could also be developed as an underground mine if higher gold grades, lower tonnages, and/or a deeper deposit were to occur. An underground mine would contain similar but smaller facilities, smaller waste dumps, and no open pit. An estimated 160 acres of disturbance would occur with an underground mine and would fit within the current claim blocks. In either case, reclamation would be concurrent with operations and upon final reclamation would take 5 to 10 years to establish vegetation.

Although the USGS estimates there is a 50-percent probability for the occurrence of one small (310 ounce) low sulfide gold-quartz deposit, the current economics would likely preclude development; therefore, no RFDS was considered feasible.

No future developments are expected for industrial minerals.

3.16.5.2 Leasable Minerals RFD

Geothermal exploration may occur in the South Playa Area. Roughly 20 temperature gradient holes 300 to 500 feet deep would be drilled with an associated minimal surface disturbance of 1 acre total. It is expected that a two-dimensional, possibly a three-dimensional, seismic study would be conducted. Surface disturbance associated with the exploration projects would be minimal, typified by crushed vegetation and soil compaction.

For analytical purposes, it was estimated that one 20-megawatt power plant would be developed with a projected life span of 20 to 80 years in the

Gerlach area. The well-field facilities would consist of five production wells and three injection wells, totaling 2 acres disturbance each. About 2 to 3 miles of pipelines would disturb about 3 acres of surface. Access roads would include a main road into the site of about 5 to 10 acres and roads (consisting of 5 acres) along the pipelines to all the wells. The power-generating facilities would consist of a structure (measuring 30 feet high, by 500 feet long, by 30 feet wide) with the generators on the ground and the cooling fans on the top. A control building or office, a shop, and an emergency water tower would cover 5 to 10 acres. The total disturbance would be estimated at 35 to 50 acres.

No oil and gas development is expected to occur.

No other leasable mineral or energy resources are expected to be developed.

3.16.5.3 Salable Minerals RFD

In the future, the sand, gravel, and borrow pit deposits located along the main roads through the NCA, South Playa, and certain wilderness designated routes (see Map 3-17) would continue to be used by the county and BLM for road construction and maintenance. Three more pits would likely be opened for these purposes. Twelve pits would exist, disturbing about 5 acres each. Free-use permits from the Blue Pit would continue to be issued to counties, BLM, and the State of Nevada. A major road construction project through the Gerlach area is expected in the near future, and the Blue Pit may provide some of the product for this project. Another Nevada Department of Transportation site, located at the very south end of the plan area, may also be considered. Interest in landscape or decorative rocks is growing in the region, and it is expected that three sales of 25 to 50 tons each would be made within the South Playa. The rock sales would disturb fewer than 5 acres each and likely use existing roads.

3.17 RECREATION

The planning area, particularly the Black Rock Desert playa, is a favorite recreation place for people from local surrounding communities; other areas in Nevada; and neighboring states of California, Oregon, Idaho, and Utah. The Black Rock Desert Playa and the High Rock Canyon ACEC are administered as Special Recreation Management Areas (SMRA). Visitors from other parts of the United States and the world also frequent the area. Most visitors to the plan area come during the time when the playa is dry (usually June through September), with the largest congregations of people participating in organized special recreation events.

A wide diversity of recreation occurs in the plan area. Some people visit the plan area to simply enjoy its solitude and naturalness. Others go there to tour historic trails, to enjoy riding OHVs across the desert playa, to catch a glimpse of a wild horse, or to rockhound. Some people participate in recreation individually or in small groups for casual or dispersed activities; others participate in organized events, either as participants or as spectators. Among the Black Rock Deserts distinctive values that attract people are its scenic vistas and historic trail settings.

Besides being a popular location for group activities, the playa has also been the location of commercial, competitive, and organized activities, including photography, filming, and other special events. The events include the world land speed record trials and historic wagon train re-enactments on historic trails. In this document, these various types of recreational activities are grouped into two categories (special recreation permit events and dispersed recreation) and are described in more detail in the following sections.

3.17.1 VISITOR USE TRENDS AND DATA COLLECTION

During the 1990s, recreational use of the Black Rock Desert area increased markedly. This

increased use is attributed in part to advertising and marketing by numerous entities and media sources other than BLM, through internet links and eco-tourism marketing surveys, and outfitter and guide trips (such as hunting and photography). The area's popularity as a recreational site has also increased with continuation and growth of organized events and the spinoff use associated with those who were introduced through these events.

Printed media about the Black Rock Desert has also increased in recent years, continually giving high profile to the Black Rock Desert region. Articles about the Black Rock Desert have been published in local, regional, national, and international magazines and newspapers. Letters to the editor in local and regional newspapers have also promoted interest in the plan area.

Short-term management is aimed at providing safety information for visitors to the area and collecting information about visitor use. Statistics for visitor growth trends were derived from the Recreation Management Information System (RMIS), a BLM recreation database. Data collection for the Black Rock Desert-High Rock Canyon region is difficult as a result of the vastness of the area and lack of available staff to collect data.

To determine visitor use trends and possible related resource impacts, the Winnemucca recreation staff began to collect intensive visitor use data during Memorial Day weekend of 1997.

A review of data from Visitor Contact Station counts during Memorial Day and July 4 weekends from 1997 to 2001 and from Visitor Use Data Collection reports from 1997 to 2001 indicates that most of the Black Rock Desert visitors for those time periods were Nevada residents. Use data indicates that most visitors (68 percent) are from northern Nevada. California residents, primarily from the Sacramento and San Francisco/San Jose areas, comprise 28 percent of visitors. The remaining 4 percent travel from other states. May and September are peak months because of the Memorial Day and Labor Day holiday weekends.

Vehicle counts and observed visitor use data collection indicated that, during summer 1990, approximately 2,740 people visited the Black Rock Desert. By 2001, visitation for dispersed use and special recreation permit events had grown to nearly 60,000 (see Tables 3-25 and 3-26). Data has consistently shown that visitors stayed an average of 3 days, which translates in 1999 to about 160,467

visitor days (a visitor day equals 1 calendar day or any portion of a day).

A diversity of recreational uses occurs within the proposed management area, including camping and OHV use. The Black Rock Desert playa and the surrounding area are primary destinations for the majority of dispersed recreation use visitors to northwest Nevada. Most (86 percent) are repeat visitors, some visiting several times a year. The OHV use is high (62 percent) for pleasure and traveling.

Visits are largely weekend or short trips (up to 4 days), with a smaller percentage using the area as a vacation destination. Hot springs such as Black Rock Hot Spring, Double Hot Springs, Trego Hot Springs, and several at Soldier Meadow are popular attractions.

During late summer and fall, numerous hunters use mountainous areas and surrounding foothills in the planning area for its abundant and world-class wildlife resources. Many hunters continue to use certain preferred hunting camping sites and areas as base camps and hunt throughout many parts of the planning area. A large portion of reported camping statistics may reflect hunting associated activities. Hunting parties often include additional nonhunting recreationists who participate in other recreation activities.

The average camping group size is 3.5 people, and the average camping trip is about 4 days. The most popular camping areas are the playa, Trego Hot Springs, Black Rock Hot Springs, High Rock Lake, Soldier Meadows, Double Hot Springs, Stevens Camp, and Massacre Ranch.

Three cabins are available for use in the planning area.

Dispersed recreational use increased by about 2,278 percent (23 fold increase) between 1990 and 1999, from about 1,200 to more than 28,000 (Table 3-26).

Table 3-25. Dispersed Recreational Activity (2001)

Activity	Percent of Total*
Camping/Hunting	72
OHV	60
Driving for Pleasure	50
Photography	30
Picnicking	10
Rockhounding	5
Mountain biking	5
Environmental Education	5
Hiking/Walking/Running	5
Nature Study	5
Target Practice	5
Backpacking	3
Specialized Sport/Event	3
Viewing-Cultural Sites	1

*The percentage may reflect a variety of activities occurring together, which results in a total percentage of use at more than 100 percent.

Source: BLM RMIS, Winnemucca Field Office (2002).

Table 3-26. Number of Dispersed Recreation Participants in Planning Area (1990-2001).

1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000 ¹	2001
1,209	2,419	9,100	4,838	9,677	5,506	17,441	17,820	24,000	28,535	161,033	68,924

Source: BLM RMIS -Winnemucca Field Office (various years)

1 – The BLM RMIS data collection system was revised during 2000 and may not have produced accurate visitation figures for 2000.

Use research indicates that new and return visits are attracted by word-of-mouth advertising from event participants, Internet marketing of the Black Rock Desert related to events, and the travel and tourism industry. The recent designation of the NCA has also brought attention to the area at a national level, which is expected to stimulate increased visitation. Dispersed recreation use presents a primary management challenge to protect sensitive and fragile resources in times of increasing recreational use.

3.17.1.1 Off Highway Vehicle Use and Access

About 62 percent of visitors to the plan area bring OHVs for recreational experiences. Most OHV traffic stays on roads and the open playa throughout the proposed plan area. A certain percentage of OHV users, however, have been operating cross-country in areas of important scenic quality. Areas around hot springs, mound/dune fields, lower mountain slopes, and inside Wilderness Areas are experiencing negative impacts. These impacts can detract from the overall experience for visitors.

Wilderness Areas are closed to OHV use; the Wilderness Study Area and the High Rock Canyon corridor are limited to existing roads and trails; the remainder of the planning area is open.

Although camping generally does not create a significant adverse impact, OHV and dirtbike use related to camping and day use in edge areas has become a management concern. Some of the major attraction areas, such as hot springs and certain areas of the playa, are also showing severe impacts related to camping use. Intensive ATV and dirtbike use has adversely affected the visual integrity of unique landscape features, including mound springs, mound/dune areas, and important scenic landmarks such as Steamboat Rock and the Black Rock. Both landmarks have new roads, leading either to the top or near the top of them, which did not exist, or were only a trace, a few years ago. Cross-country travel by ATVs and dirt bikes is also creating numerous trails on alluvial fans and lower mountain slopes. These soil types cannot recover or sustain such impacts, which is resulting in formation of gullies.

A very small number of four-wheel-drive vehicles travel cross-country within the proposed plan area. Visitor use data indicates that most four-wheel-drive vehicles are operated on the playa and existing roads.

The Black Rock Desert plan area, including its playa, may appear to some people to be appropriate for all types of cross-country travel. The playa tends to be resilient, repairing itself during the wet season from the effects of conventional vehicles incurred the previous dry season. Many nonplaya areas (especially mound and dune fields, alluvial fans, mountain slopes, and hot spring sites), however, are sensitive to vehicle use as exhibited by signs of degradation. Concern exists that degradation from accelerated erosion resulting from human activity in nonplaya areas may become irreversible. The mountain slopes also do not recover well from vehicular impact; some areas will not recover even if use ceases and will require rehabilitation.

Further, as emphasized throughout this plan, the integrity of emigrant trail setting must be respected and maintained. A portion of the Applegate-Lassen National Historic Trail is routed along a major fault line associated with hot springs. Emigrants followed these water sources, establishing a pattern of historic trails on and around the playa. Vegetation along this fault established, stabilized, and encouraged growth of mounds and dunes. Over the years, contemporary two-track roads have become superimposed on portions of historic trail segments. These well-traveled routes allow for historical trail touring, playa access, and casual dispersed use. The Applegate-Lassen Trail, as well as hot springs and landmarks along the trail (such as the Black Rock itself), have numerous OHV tracks on and around them. The same is true of Trego Hot Spring and Coyote Spring, which are located along the 1856 Nobles Route.

3.17.1.1.1 Special Recreation Permits

According to Winnemucca BLM records, the first special recreation permit issued for the planning area was in 1982; 5 years later, the number of special recreation permits (SRP) started to increase.

According to BLM records, BLM issued 18 SRPs for commercial or competitive uses in the

plan area during 2001. These permits were for a diversity of activities of various sizes and scope, including model rocketry launches, outfitting and guiding, landsailing, the golf tournament, the Burning Man festival, and four-wheel-drive Applegate-Lassen Trail tours (see Tables 3-27 and 3-28).

Most events permitted through the SRP system occur on the playa. Playa events that have been occurring annually, with few exceptions, are the Burning Man Festival, Self-Invitational Golf Tournament (Lucifers Anvil), AeroPac and Tripoli rocket launches, Sunny Acres Sipping, Sailing, and Soaring Society (SASSASS) landsailing, Tin Cup Adventures, and trips offered by several outfitters and guides. The Spirit of America and Thrust SSC land-speed record attempts also occurred on the playa. Outfitter and guide events, including areas other than the Black Rock playa, consist of very small groups. Historic trail touring trips, facilitated by the Oregon-California Trails Association and Trails West, Inc., have occurred along the Applegate-Lassen Emigrant Trail and the Nobles Route. As data in the tables show, growth rates between dispersed use and permitted use correspond.

The activities showing the largest increases in participant attendance from 1990 to 1999 were the Burning Man Festival and amateur rocketry (see Table 3-27). Attendance increased by 2,850 percent from 800 to 23,600 for the Burning Man Festival, and by 312 percent from 267 to 1,100 for amateur rocketry. The land speed record has been permitted for only 2 years (1996 and 1997), and the participant attendance between those 2 years increased from 250 to more than 2,000. Some events have relatively stable participation each year; those events are landsailing, golf tournament, Applegate-Lassen Trail four-wheel-drive trips, and guided hunting trips. Total SRP participation in 2000 and 2001 was 25,843 and 26,284, respectively.

Table 3-27. Number of Participants Per Special Recreation Permit Event (1990–2001)

Event	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Burning Man Festival	800	250	600	1,000	2,000	4,000	8,000	0 ¹	14,500	23,600	25,453	25,600
Amateur Rocketry	267	316	525	197	384	451	339	555	496	1,100	250	400
Landsailing	36	71	90	84	100	70	96	100	98	129	52	70
Horse Trips	292	100	100	15	48	26	53	12	15	0	28	40
Golf Tournament	45	50	46	47	46	48	30	80	40	48	36	50
Applegate-Lassen Trail 4WD Trips	42	30	21	49	37	41	58	36	50	50	0	50
Land Speed Record	0	0	0	0	0	0	250	2,020	0	0	0	0
Cattle Drive	24	11	6	19	16	12	20	0	0	0	0	0
Hunting Guides	26	27	28	27	26	27	28	27	26	27	24	10
TOTAL	1,532	855	1,416	1,438	2,657	5,863	8,874	12,830	15,225	24,954	25,843	26,284

1 – The Burning Man Festival occurred on private land in 1997.

Source: BLM Winnemucca Field Office Special Recreation Permit Post-Use Reports and Recreation Management Information System Reports, 1990–1999.

Table 3-28. Number of Special Recreation Permits Issued in Black Rock Desert Region (1983—2001)

Year	Outfitter and Guided Trips (e.g., Hunting, Photography)	Historic Trails Trips (e.g., Horse, Wagon, Cattle Drives, 4WD)	Horse Endurance Rides	Land Speed Record Attempts	Golf	Land Sailing	Rocket Launches/ Model Airplanes	Art Festivals	Total
1982	—	—	—	1	—	—	—	—	1
1983	—	—	—	1	—	—	—	—	1
1984	—	—	—	—	—	—	—	—	—
1985	2	—	—	—	—	—	—	—	2
1986	2	—	—	—	—	—	—	—	2
1987	3	—	—	—	—	—	—	1	4
1988	5	1	1	—	—	—	—	—	7
1989	4	2	—	—	—	—	—	—	6
1990	6	2	—	—	1	1	1	1	12
1991	6	2	—	—	1	1	3	1	14
1992	7	4	1	—	1	1	2	1	15
1993	8	2	1	—	1	1	1	1	15
1994	10	2	2	—	1	1	2	2	20
1995	9	3	1	3	1	1	2	1	21
1996	6	2	1	1	1	1	3	1	16
1997	7	3	1	1	1	1	4	0	18
1998	10	4	1	—	1	1	4	1	22
1999	9	3	—	—	1	1	4	1	19
2000	7	—	—	—	1	1	6	1	16
2001	5	1	2	—	1	1	7	1	18
TOTAL	106	31	11	5	12	12	39	13	233

Source: BLM Winnemucca Field Office Special Recreation Permit Log and Recreation Management Information System Reports.

The Winnemucca Field Office requires permitted organizations to mitigate adverse impacts attendant to their marketing and activities. The organizations cooperate by including public education on their Web sites and in the literature they distribute. Most permitted organizations also participate in the BLM Volunteer Program during times outside their permit for conducting rehabilitation work throughout the plan area. In addition, permits mandate that permittees follow stipulations directing permittee staff and public land users in methods of public safety and avoidance of environmental degradation.

Having permitted groups actively involved in Black Rock Desert resource management allows BLM recreation staff to continue evaluating and authorizing special recreation permits on a case-by-case basis. Some events are under 5-year permits (e.g., golf, traditional rocket events, and landsailing) because their locations remain the same and their events tend to be small in size, duration, and number of participants. Periodically, BLM receives a request for a special event, such as an international event or a major location change, which requires an environmental assessment (EA) and other planning considerations and coordination.

Before events are permitted, NEPA analysis is conducted, taking into consideration the nature of events, potential impacts to resources, conflicts with other events, and adverse impacts to quality of other visitors' experience.

3.18 PUBLIC OUTREACH AND VISITOR SERVICES

One method of public outreach that exists in the planning area is direct contact by BLM staff and volunteers. Periodically, recreational use would be monitored and the plan area patrolled by the Winnemucca Field Office Ranger and other employees working in the area. To provide for visitor safety, BLM employees and Volunteer Program staff would provide assistance and information to visitors.

Two full-time and one part-time law enforcement ranger make regular patrols of the planning area. Visitor contacts often include

direction giving, resource explanation, and emergency assistance.

The NCA recreation staff make frequent visits to the planning area. One full-time wilderness ranger makes patrols of the wilderness areas and will, if needed, provide directions, interpretation, and emergency assistance. Other members of the recreation staff spend unscheduled but frequent days in the planning area for management purposes and would provide similar types of visitor contact.

The Winnemucca BLM Field Office Volunteer Program trains and certifies instructors for *Leave No Trace* and *Tread Lightly!* programs. These programs emphasize using ethics that promote low-impact use. An educational outreach program incorporating the *Leave No Trace* and *Tread Lightly!* programs are provided to schools, organizations, and media periodically, generally in conjunction with a specific event.

Based on partnerships and cooperative efforts currently under way, educational outreach is provided on a case-by-case basis in conjunction with a specific event, and event organizers are already actively involved in public outreach with the BLM.

Successful management depends on public participation in land-use conservation to avoid strict-use limitations. Public participation is realized through the national *Leave No Trace* and *Tread Lightly!* programs. These public education outreach efforts, which had their beginnings in the U.S. Forest Service, have been adopted by all Federal public land agencies.

These programs give visitors guidelines on back-country use ethics to aid in resource preservation. In its public education and outreach effort, the Winnemucca Field Office in 1997 placed *Leave No Trace* and *Tread Lightly!* guidelines on its Web site, www.nv.blm.gov/Winnemucca. Since May 1997, the Winnemucca Field Office has conducted an annual *Leave No Trace* train-the-trainer course. These public education efforts have resulted in all special recreation permittees being required to either place the guidelines on their Web sites or distribute them through event literature.

Other outreach efforts include distributing available resource information and presenting public education talks on request, installing information kiosks at key access points, and providing recreation event schedules to the public as event schedules become available. The BLM

also seeks grants, cooperative agreements, and volunteer services to assist in resource management and to provide limited amenities such as information kiosks and brochures.

Information requests from the public, media, and tourism entities are responded to as they are received.

A visitor contact trailer has been periodically staffed near Gerlach since Memorial Day 1997. The public has received this contact station positively as an interpretive, customer-service site. A visitor information kiosk has also been constructed in Gerlach.

Visitor information facilities, such as interpretive signs, directional signs, and portal signs, are already in place in the planning area.

3.19 SOCIAL AND ECONOMIC CONDITIONS

Portions of the planning area lie within Humboldt, Pershing, and Washoe Counties. The northwestern section of the NCA lies within BLM's Surprise Resource Area, which is managed by BLM's office in Cedarville, Modoc County, California. The potential exists for each of these counties to experience economic effects as a result of management prescriptions for this plan. The principal economic activities conducted on these resource lands are recreation, agriculture, and mining.

3.19.1 LOCALE AND ACCESS

3.19.1.1 Gerlach and Empire, NV

Principal access to the Black Rock Desert is through the towns of Gerlach and Empire, which lie just outside the southwest boundary of the planning area, on State Route 447. Neither Gerlach nor Empire is incorporated. The population of the Gerlach-Empire CDP (Census Designated Place) was placed at 499 persons by the 2000 Census. However, the Gerlach Township, which includes outlying residents, is estimated at approximately 900 people. This population increases seasonally as migrant farm workers come in to help harvest the onion and garlic crops. Other than in the towns, habitation in the area is located mainly on isolated ranches.

Gerlach has some limited retail services, a motel, three restaurants, several bars, and a gas station. A tow-truck is available at the gas station. Empire is about 6 miles south of Gerlach, and serves as a residency for employees of the U.S. Gypsum mine and wallboard plant. There is a general store and gas station in Empire.

None of the services in Gerlach or Empire are available 24-hours-a-day. Although there is a medical clinic and a Washoe County Sheriff's

station in Gerlach, the nearest full medical and emergency services are in the Reno-Sparks area, about 110 miles distant. Cellular phones are not always successfully used in the Black Rock Desert area, as there are no towers closer than the Reno-Sparks area. Currently, a cellular telephone tower is planned for the area. Several pay telephones are available in Gerlach and Empire, and there are no banks or ATMs (Automated Teller Machines) in either town.

3.19.1.2 Cedarville, CA

North of Gerlach, eighty-four miles on State Route 447, the nearest town with limited services is Cedarville, California. Major services are available in Alturas, California, 30 miles west of Cedarville. County Road 34, a good unpaved road, leads north from Gerlach to Vya (no services), and from there to Cedarville, California or Denio, Nevada. Many recreationists travel through Cedarville en route to the Sheldon Antelope Range, the northern part of the NCA, or the Black Rock Desert for access to hunting and fishing, OHV events, camping, and other forms of outdoor recreation. High Rock Canyon is also a popular destination. Both State Route 447 and County Road 34 are both used for accessing these areas.

3.19.1.3 Fernley, NV

Seventy-five miles south on Nevada State Highway 447, at its intersection with Interstate 80, is the town of Fernley, which has most services. Fernley has the nearest American Automobile Association (AAA) towing service, banks and ATMs. The North Lyon County Ambulance Service is located in Fernley, and REMSA (Regional Emergency Medical Services Authority) is available just north of Fernley, in Wadsworth. Thirty miles west of Fernley is the Reno-Sparks metropolitan area with all major facilities and services. Medical air-lift service is available in Reno for remote assistance.

3.19.1.4 Lovelock, NV

The city of Lovelock offers a good point of access to the area via the Seven Troughs Road to Sulphur. This is a well-maintained gravel road that

provides a direct route from Lovelock to the Rosebud and Hycroft mine sites. It is a well-established route for hunting and recreation destinations in the planning area. Services available in Lovelock include a supermarket, gas stations, restaurants, and motels, as well as the Pershing General Hospital.

3.19.1.5 Winnemucca, NV

Winnemucca offers complete services, but it is 98 miles east of Gerlach on Secondary State Route 48 and 49, a very rough, graveled road, known as the Jungo Road from Winnemucca to Sulphur, and the High Road from Sulphur to Gerlach. Many recreationists from states east and north of Nevada travel through Winnemucca to reach the Black Rock Desert, particularly those participating in the Burning Man Festival. Some do use the Jungo Road for access, but the majority travel south through Lovelock on Interstate 80, to Fernley, and then take State Route 447 north. This requires an extra 2 hours of travel time, but avoids the hazards of flat tires (from sharp edged rocks), washouts, or potholes that may be encountered on the Jungo Road and the High Road.

All other roads in the area are passable when dry, but are best driven in a high-clearance, 4-wheel drive vehicle. There are no services and few inhabitants along the back-country roads.

3.19.2 COUNTY PROFILES

3.19.2.1 Humboldt County, NV

Humboldt County, the 4th largest of the state's 17 counties, is rural and sparsely populated. With a total area of approximately 9,704 square miles, and a population of 16,106 (U.S. Census, 2000), population density for the county is slightly less than 1.7 persons per square mile. The largest population center in the county and its only incorporated city is Winnemucca, with a 2000 population estimate of 7,174, representing about 45 percent of the county's population.

The Federal Government represents a significant presence in the county, as illustrated by land ownership data. Approximately 80 percent of

the county's 6,210,560 acres (4,968,371 acres) are under federal ownership. Federal Payments in Lieu of Taxes to Humboldt County for fiscal year 2002 amounted to \$749,568.

Table 3-29 shows earnings by place of work and employment (jobs) by major industrial sectors, for Humboldt County in 2000. Total personal income for the County in 2000 was reported to be \$409,251,000; this includes earnings by place of work, personal contributions for social insurance, adjustments for residence, dividends, interest, and rent, and transfer payments. Earnings by place of work constituted \$323,589,000 of that total. Per capita personal income was estimated at \$25,665 for 2000. This per capita personal income ranked 5th in the State and was 87 percent of the State average of \$29,506, and 87 percent of the national average of \$29,469.

Total employment is estimated at 9,836. The mining industry is no longer the most prominent employment sector for the county, and now ranks third with mining employment having declined to 1,472 people; mining industry income generation remained highest, however, at \$93.4million. This represents 15 percent of employment and 28.9 percent of income in the county. The service industries are now the County's premier employer, providing the largest source of employment, at an estimated 2,209 jobs. The service industries generated \$43.1 million in income, second most important in the County. Wholesale and Retail Trade occupies third place in terms of income, with \$39.9 million, and second in terms of job production, with 1,922 jobs. Federal, State, and Local Government, combined, provided \$59.2 million in income and 1,420 jobs.

Humboldt County unemployment was reported for the second quarter of 2002 at 410 persons, for an unemployment rate of 5.7 percent. This compares with data for the second quarter of 2001, which indicates 460 people were unemployed, resulting in an unemployment rate of 6.5 percent. During this period, total employment increased by 150 persons, but there were 100 more people in the labor force, thereby reducing by 50 the total number of people in the labor force seeking employment. This is a hopeful indicator for the County as it seeks to diversify its industry and become less reliant on mining. In the last several years there has been a reduction in mining activity due to the decline in the international price for gold. While the mining

companies have become more efficient, they have also been forced to accept significant reductions in employment. Mining industry employment dropped from a high of 2,548 persons in 1997 to 1,472 in 2000.

Agriculture continues to be regarded as the foundation of the County's economic base. Humboldt County is one of the leading agricultural counties in Nevada. Total cash receipts from agricultural marketings in 2000 were reported to be \$61.2 million, with \$26.5 million from livestock and livestock products and \$34.7 million from crops. This was second in the state, with 15 percent of the state's total agricultural receipts.

The economy of Humboldt County remains tied to mining, however. Total Assessed Valuation for Humboldt County has recently declined from a high of \$639.6 million in Fiscal Year 2000 to \$531.5 million in FY 2003. This Total Assessed Valuation figure includes Net Proceeds of Minerals, and the decline is reflective of the overall decline in the mining industry. Though mining has declined in recent years, it remains the largest income producing industry in the County. The economic dependence on the mining industry makes the regional economy very vulnerable to external conditions, such as fluctuations in global prices and demand. Local development authorities have noted this potential risk. Overall, economic development plans have been developed for both Humboldt and Pershing Counties to provide direction and support in the development of other industries and economic activities in order to diversify the economy. Target industries for development include gaming and tourism, recreation, agriculture, and geothermal resources (BLM 1996; Tri-County Development Authority 1995).

3.19.2.2 Modoc County, CA

Modoc County is in the extreme northeast corner of the State of California, bordering Washoe County, Nevada. While none of the planning area is within Modoc County, the northwest portion of the NCA is within the management area of BLM's Surprise Field Office located in Cedarville. A number of livestock operators who utilize grazing allotments, partially within the NCA in Washoe and Humboldt Counties, in Nevada, reside in Modoc County. Modoc County is concerned about the potential for economic impacts that might result

from livestock grazing adjustments, and about the potential costs and benefits of recreational tourism that might be attracted to the NCA, utilizing Cedarville as a gateway community.

Modoc County's population ranks 56th of California's 58 counties, at an estimated 9,350 persons for 2002 (California Department of Finance, Demographic Research Unit). Alturas is the only incorporated city in the County, with a population of 2,640, or approximately 28 percent of the County's population. The remainder of the population resides in the unincorporated areas. With a total area of approximately 4,340 square miles, population density for the County is slightly more than 2.1 persons per square mile.

Approximately 1,733,567 acres, or 68.7 percent, of the County's 2,524,220 acres are public land. With portions of Modoc National Forest and Shasta National Forest within the County, the Forest Service is the principal Federal land management agency, with 1,381,604 acres. BLM manages 272,388 acres within the County. Federal Payments in Lieu of Taxes to Modoc County for fiscal year 2002 amounted to \$279,442.

Table 3-30 shows earnings by place of work and employment by major industrial sectors, for Modoc County in 2000. Total personal income for the County in 2000 was reported to be \$204,402,000; this includes earnings by place of work, personal contributions for social insurance, adjustments for residence, dividends, interest, and rent, and transfer payments. Earnings by place of work constituted \$110,378,000 of that total. About 45 percent of Modoc County's total personal income (\$92,107,000) derives from transfer payments, dividends, interest and rent.

Per capita personal income for 2000 was reported to be \$21,710. This per capita personal income ranked 44th in the State, and was 68 percent of the State average of \$32,149, and 74 percent of the national average of \$29,469. The 2000 per capita personal income figure represents a small decrease of 0.1 percent from 1999.

Total employment (jobs) was estimated to be 4,726 for 2002. Federal, State, and Local government provided 41.8 percent of the County income, at \$46.1 million, and 30.2 percent of employment, with 1,429 jobs. The Service industries were a distant second with 13.5 percent of income (\$14.9 million) and 19.8 percent of the jobs (934). Wholesale and Retail Trade is the third

largest income producer, with \$13.9 million; however, Agriculture is third in importance in employment with 740 jobs.

Agriculture remains an important economic base for the County, with cash receipts from marketings totaling \$75 million. Livestock and livestock products accounted for \$23.8 million, while crops accounted for \$51.2 million of that total. These cash receipts provided a total farm labor and proprietors' income of \$10.6 million.

With a total labor force of 4,510 persons in June 2002, employment (the number of employed persons) was reported to be 4,260 and unemployment to be 250, for an unemployment rate of 5.5 percent. This compares with data for June 2001, which indicates a labor force of 4,180, with 3,960 persons employed and 220 unemployed, for an unemployment rate of 5.4 percent. The month of June represents an annual peak in employment for Modoc County, indicating a higher level of seasonal employment resulting from an influx of summer visitors enjoying the areas natural beauty and relaxed summer vacation amenities.

Modoc County is a popular tourist and recreation destination for visitors from San Francisco and Sacramento Counties. It is also a popular location for outdoor recreation and hunting and fishing for visitors from Washington and Oregon, and other California counties. Cedarville is an "exit" location for many visitors and Four-Wheel Drive Clubs from these same areas who are en route to recreational tourism, OHV recreation, or hunting in Northern Nevada and the NCA, and for many visitors participating in the Burning Man Arts Festival.

3.19.2.3 Pershing County, NV

Pershing County, too, is a sparsely populated and rural county. With a land area of 6,031 square miles, Pershing ranks as the 8th largest county in the state. Nevertheless, its 2000 Census population of 6,693 persons ranks 11th. While this equates to 1.1 persons per square mile, almost 30 percent of Pershing's population (2,003 persons) is concentrated in the incorporated city of Lovelock.

Much of the land within the County is public land managed by the Federal Government. Approximately 2,928,779 acres, or 75.9 percent of the county's 3,859,840 acres, are public land. BLM is responsible for management of 2,909,599 of

those acres, while the Bureau of Reclamation administers 19,180 acres. Federal Payments in Lieu of Taxes to Pershing County for fiscal year 2002 amounted to \$489,334.

Table 3-31 shows earnings by place of work and employment by major industrial sectors for Pershing County in 2000. Total personal income for the County in 2000 was reported to be \$111,938,000; this includes earnings by place of work, personal contributions for social insurance, adjustments for residence, dividends, interest, and rent, and transfer payments. Earnings by place of work constituted \$83,196,000 of that total. In 2000, Pershing County had a per capita personal income of \$16,810. This per capita personal income ranked 17th in the State, and was 57 percent of the State average of \$29,506, and 57 percent of the national average of \$29,469.

Historically, mining and agriculture have been the constant and most dependable economic activities in Pershing County. These industries were the County's original and primary source of income and continue to play an important role in the County's economy today.

Total employment (jobs) is estimated to 2,666. Mining dominates the County economy, providing \$34.7 million in income, representing 41.7 percent of the County's income, and 677 jobs, or 25.4 percent of the county's employment. Federal, State, and Local Government, combined, is actually the largest employer, at 678, exceeding the mining industry by one job. Government is the second highest income producer, with \$26.6 million in earnings.

Although agriculture has become less important as other industrial sectors have expanded, many of the residents still regard agriculture as the solid and dependable bedrock of the economic base. Agriculture provided 312 jobs in 2000, which represented 11.7 percent of the county's employment. Cash receipts from marketings totaled \$35.3 million, with \$22.9 million from livestock and livestock products, and \$12.4 million from crops. This was 5th in the state, with 8.8 percent of the state's total agricultural receipts. These marketings provided \$3.9 million in income to the County.

Unemployment in Pershing County was reported for the second quarter of 2002 at 100 persons, for an unemployment rate of 4.5 percent. This compares with data for the second quarter of

2001 which indicates 100 people unemployed and an unemployment rate of 4.8 percent. During this period, total employment in the county actually increased by 60 persons, from 1,960 persons employed to 2,020, but there were an additional 60 people in the labor force. With the general reduction in mining activity throughout the state, it is likely that these additional people in the labor force represent Pershing County residents who had been employed by mining operations in adjacent counties.

Since 1997, mining has declined significantly in Pershing County, too. In 1997, mining produced \$44.1 million in income to the County, and provided 897 jobs. Nevertheless, with almost 42 percent of total county earnings directly generated by the mining industry, Pershing County, like Humboldt County, is strongly tied to the mining industry for its economic livelihood. Total Assessed Valuation, including Net Proceeds of Minerals, for Pershing County reached a high of \$188.8 million in Fiscal Year 1999, and, paralleling the decline of the mining industry, fell to \$168.9 million in Fiscal Year 2003. As mentioned in Section 3.19.2.1, Pershing County is aware of the economic vulnerability of this large dependency on a single industry, and is actively seeking opportunities to diversify the economy.

3.19.2.4 Washoe County, NV

As the second most populous county in the state, with a Census population of 339,486 for 2000, Washoe County is regarded as an urban area. However, more than 95 percent of its population is concentrated in the southern portion of the county, in Reno, Sparks, Verdi, and Incline Village Townships. The remainder of the County, and the vast majority of its land area, is sparsely settled and rural in character. The County encompasses 6,608 square miles and is the 7th largest county in the state in area. Population density is calculated at 51.4 persons per square mile, however this figure is deceptive; density is much greater in the Reno-Sparks metropolitan area, and much lower in the balance of the County.

Washoe County, too, has a large percentage of public land managed by the Federal Government. Approximately 2,923,632 acres, or 69 percent of the county's 4,229,120 acres are public land. BLM manages about 2.6 million of those acres, while the

U.S. Fish and Wildlife Service, the Forest Service, and the Bureau of Reclamation are responsible for the balance. Federal Payments in Lieu of Taxes to Washoe County for fiscal year 2002 amounted to \$1,584,062, which was the highest in the state.

Table 3-32 shows earnings by place of work and employment by major industrial sectors for Washoe County in 2000. Total personal income for the County in 2000 was reported to be \$11.9 billion; this includes earnings by place of work, personal contributions for social insurance, adjustments for residence, dividends, interest, and rent, and transfer payments. Earnings by place of work constituted \$8.4 billion of that total. Per capita personal income was estimated to be \$34,879 in 2000. This ranked 2nd in the state, and was 118 percent of the state average of \$29,506 and 118 percent of the national average of \$29,469.

Total employment is estimated at 240,785 jobs. The service industries (hotels, gaming, tourism, entertainment, recreation) clearly dominate the economy with 38.8 percent of the jobs, and 35.2 percent of the income for the County. Wholesale and retail trade is distant second with 21.0 percent of the jobs and 16.8 percent of the income. Agriculture in Washoe County fared relatively well in 2000, with earnings almost 3 times greater than those of the previous year. Nevertheless, when viewed in terms of the entire county economy, both agriculture and mining are considerably less significant than in the other counties. Together, agriculture and mining produce less than 1 percent of Washoe County earnings, and provide just slightly more than 1 percent of the jobs in the economy. This is an interesting consideration, for the mining industry's earnings and employment in Washoe County are greater than the earnings and employment that the mining industry had generated in Pershing County for the same year; yet, in Pershing County the mining industry is the most significant contributor to the economy. So it is useful to recognize that, while the mining industry's earnings of \$48.0 million in Washoe County may be less than 1 percent of the total earnings for the county, it remains an important contributor to the economic well-being and diversity that helps to sustain the county's growth.

Agriculture, too, is more important than a relative comparison might indicate. Cash receipts from marketings in 1995 totaled about \$28.2 million. This ranked 7th in the state, ahead of many

of the counties in Nevada that are traditionally regarded as agricultural counties. Cash receipts from livestock and livestock products yielded \$10.0 million, and cash receipts from crops produced \$18.2 million. These cash receipts provided a total farm labor and proprietor's income of \$8.4 million.

Total employment in Washoe County increased by 3,800 jobs, from June 2001 to June 2002, but the labor force increased by 4,900 during that same period, with the unemployment rolls increasing by 1,400 persons to 9,100. Consequently, the unemployment rate increased by 0.6 percent from 4.2 percent to 4.8 percent in June 2001. However, 4.8 percent is among the lowest unemployment rates of all the counties in the state, and is characteristic of a strong and healthy economy. Washoe County continues to enjoy uninterrupted growth, with Total Assessed Valuation rising to \$9.5 billion in Fiscal Year 2003.

3.19.3 NATIVE AMERICAN TRIBES

The Native American Tribal governments near the planning area are separate and distinct entities. While within the influence of, and subject to, the county and regional economies, they have their own unique sources of funding and engage in economic and commercial activities under their own authority. The Summit Lake Paiute Tribe, Lovelock Paiute Colony, and Pyramid Lake Paiute Tribe are within the area influenced by this RMP, and the potential exists for each of these Tribes to experience economic effects as a result of management proposals for this plan.

The Summit Lake Paiute Tribe is located approximately 8 miles west of Denio, in Humboldt County. Tribal land totals approximately 10,098 acres, with 85 tribal members, and a resident population of 15. Their business offices are located in Winnemucca. All funding is federally sourced, and there are presently no commercial activities. The Tribe operates its own natural resource programs.

The Tribe contributes to the local and regional economies through the purchase of goods and services, salaries, contractual services, and general operating expenses. The majority of their expenses occur in Winnemucca, Reno, and Gerlach. Twelve

or more people are employed on a regular or part-time basis. The Tribal Council reported that \$826,689 was expended in 1999 and \$538,634 was expended in 2000 in these categories.

The Lovelock Paiute Colony is located in Lovelock, with 20 acres of Tribal Land. Tribal membership totals 345, with 102 in residence in Lovelock. All funding is federally sourced, and there are presently no commercial activities. The Tribe operates its own administrative, social, law enforcement and legal services, and contributes to the local economy through employment, the purchase of goods and services, contractual services, and general operating expenses. No adverse economic effects are expected, but positive economic effects could occur should visitation to the NCA increase tourism in the Lovelock area. The opportunity for cultural and general merchandising would be enhanced.

The Pyramid Lake Paiute Tribe is located 35 miles northeast of Reno, surrounding Pyramid Lake in Washoe County. There are approximately 476,669 acres of Tribal Land, with 2,121 tribal members, and 1,734 in residence. The Tribe provides a full array of social, legal, law enforcement, administrative, educational, and infrastructure services. In addition to Federal funding, the Tribe operates an Interstate 80 Smoke Shop, the Pyramid Lake Marina, and a general store in Nixon. Fishing licenses for Pyramid Lake provide additional revenue. The Tribe spends over \$1 million, annually, in the regional economy for employment, goods and services, contractual services, and general operating expenses of the Tribal government for the provision of community services.

3.19.4 PRIMARY SECTORS

Recreation and the revenues that may derive from potential minerals development are the principal economic activities that may be affected by management prescriptions for this plan. In addition, the counties have expressed concern about potential costs for road maintenance, law enforcement and court costs, search and rescue operations, and aid to the indigent.

Visual Resource Management requirements may impose some constraints on the granting of

rights-of-way for electric power lines and on some commercial activities that are permitted through the Lands Program. Payments in Lieu of Taxes to the counties will not be affected.

Agricultural activities and revenues will not be affected by this plan. Seventeen Nevada ranchers hold BLM livestock grazing permits on eleven allotments, and sixteen California ranchers hold livestock grazing permits on 8 allotments that are partially within the planning area. The Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Act of 2000 stipulates that, "Where the Secretary of the Interior currently permits livestock grazing in the conservation area, such grazing shall be allowed to continue subject to all applicable laws, regulations, and executive orders." Livestock grazing will initially continue at existing authorized use levels subject to monitoring for vegetative condition. Such potential modifications that are discussed in the Alternatives may, in the future, be implemented to achieve management goals. No specific AUM reductions are proposed at this time, and therefore assessment of economic impacts is not necessary. Should any reduction proposals be considered necessary in the future, they will be evaluated at that time.

3.19.4.1 Recreation

Expenditures for recreation in the planning area contribute to the regional economy through the purchase of lodging, services, equipment, fuel, and food. Based on data developed by the US Fish and Wildlife Service's 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation; on the US Forest Service's 1998 Draft General Technical Report, Developing Expenditure Profiles for Forest Service Recreation Visitors; on BLM's assessment of Employment and Income in the Western U.S. Attributable to BLM Recreation, prepared by the University of Wyoming, 2001; and on data gathered and evaluated by the US Forest Service for its National Forest Service Benefit Values, these expenditures and the value of the recreation experience itself can be estimated. Because the expenditures of non-residents are necessarily higher on a daily basis than resident expenditures, and because non-resident expenditures bring new dollars into the State and thereby serve to expand the State economy,

estimates were prepared for both resident and non-resident expenditures.

Total recreation visits to the planning area, excluding Special Recreation Permits, are estimated at 83,404 for fiscal year 2001. This is based on data gathered for specific sites and professional estimates for dispersed use. The number of hours spent pursuing different recreation activities on these visits is translated into Visitor Days. These total visits of 83,404 yield an estimated total of 63,803 Visitor Days.

A review of data from Visitor Contact Station counts during Memorial Day and July 4th weekends of 1997 and 1998, as well as Visitor Use Data Collection reports for 1997-1999, indicates that 68 percent of visitors was from Northern Nevada, 28 percent was from California, primarily from the Sacramento and San Francisco/San Jose areas, and the remaining 4 percent was from other states. This information serves as an effective proxy for estimating resident Visitor Days of 43,384, and non-resident Visitor Days of 20,419.

The total of 43,384 Resident Visitor Days is comprised of 14,523 days for camping, 725 for picnicking, 12,431 days spent driving for pleasure, 729 pursuing educational opportunities, 808 days for trail-related activities, 7 days in winter activities, 428 days fishing, 4,376 days hunting, and 9,357 days for all other recreation activities.

The 20,419 Non-Resident Visitor Days are estimated, as follows: 6,835 for camping, 341 for picnicking, 5,850 driving for pleasure, 343 in educational opportunities, 380 days in trail-related activities, 4 days for winter activities, 202 days fishing, 2,060 days hunting, and 4,404 days for all other recreation activities.

Resident expenditures associated with camping and picnicking are estimated at \$15.19 per day. Expenditures for driving for pleasure are estimated at \$25.53 per day; pursuing educational opportunities at \$22.40 per day; trail-related at \$10.41 per day; winter activities at \$25.47 per day; fishing at \$38.58 per day; hunting at \$40.40 per day; and all other recreation activities at \$22.40 per day. All estimates are in 2001 dollars.

Non-Resident expenditures are estimated at \$27.09 per day for camping and picnicking; \$49.58 per day for driving for pleasure; \$39.16 per day for educational opportunities; \$38.69 per day for trail-related; \$44.02 per day for winter activities; \$70.84

per day for fishing, \$79.59 per day for hunting; and \$39.16 per day for all other recreation activities.

Applying these expenditure estimates to the estimated number of days for each activity yields a total estimate of \$1,840,316 (2001 dollars) for expenditures associated with recreational activities in the planning area; \$976,839 for residents, and \$863,477 for non-residents. This is about \$28.84 per person, per day. This estimate of approximately \$1.8 million does not include visits associated with Special Recreation Permits.

In fiscal year 2001, BLM issued Special Recreation Permits for 18 events. These included the Burning Man Festival, a land sailing event, rocket launching, a golf tournament, an organized OHV trip, horseback riding tours, and outfitter and guiding expeditions. Fees received by BLM for the Special Recreation Permits totaled approximately \$509,000, of which approximately \$502,000 came from Burning Man alone. There were 26,345 persons attending these events, either as participants or spectators. The Burning Man Festival alone drew 25,600 people over a period of 7 days, averaging a stay of 3 days per person, or 76,800 Visitor Days. Total Visitor Days for all Special Recreation Permit events are estimated at 77,695. This compares to the estimate of 63,803 Visitor Days for all of the non-SRP recreation. Applying the conservative expenditure estimate for all other recreation activities of \$22.40 per day for residents, and \$39.16 for non-residents, to the 77,695 Visitor Days yields an additional recreation-associated expenditure estimate of \$2,157,055; \$1,183,459 for residents, and \$973,596 for non-residents.

Estimated recreation-associated expenditures by individual participants generated by the planning area in 2001 totaled \$3,997,371 or \$4.0 million. Based on analysis of an IMPLAN input/output model for Washoe County, these total expenditures generated \$1.96 million in direct labor and proprietor income and created or sustained 90.5 jobs (2000 hour full-time equivalent) as a direct effect. Non-resident expenditures totaling \$1,837,073, which bring in new money and contribute to the expansion of the regional economy, generated \$900,166 of that total, in new income, and directly created 41.6 new jobs of the 90.5 jobs total. The total direct, indirect, and induced effect of these expenditures on the regional economy amount to \$2.65 million in income, and 113.7 jobs.

The visitation data indicates that 68 percent of the casual use recreation participants reside in Northern Nevada, and many of the other participants pass through the Reno-Sparks area en route to the Black Rock Desert. It may be expected, therefore, that the majority of these expenditures occur in Washoe County - either in Gerlach, Empire, Reno, or Sparks. However, informal evidence, particularly that associated with visitation to Burning Man, indicates that many recreation travelers enter the area through Cedarville or Winnemucca, and pass through Lovelock and Fernley as well. Though no specific documentation exists for all recreation visitation, data from the Burning Man Festival and word-of-mouth evidence, testify to large expenditures for supplies in each of these locations. Unfortunately, there is insufficient evidence to support an apportionment of the expenditures, by county, and therefore the IMPLAN model was constructed for Washoe County alone. The variation in effects, by county, would not be that significantly different.

As part of its "Afterburn Report 2001," Burning Man conducted a survey of participant expenditures by location. This was not a formal survey using rigorous control methods, but it nevertheless provided useful general information. Of the 25,600 people attending the event, 3000 responded. Unfortunately, Cedarville and Winnemucca were not included in the questionnaires, and Fernley was grouped with Reno and Washoe County. Reported results indicate that, of the 3000 respondents, 1,765 spent approximately \$255,400 in Reno, Fernley, and Washoe County, averaging about \$145.00 per person. Another 285 persons spent about \$22,200 in Lovelock, averaging close to \$78.00 each. It is not reported if these expenditures were specifically for supplies for the event, and they may include gasoline, lodging, restaurants, and casino entertainment, as well as supplies. This does illustrate, however, that the expenditures of recreationists visiting the Black Rock Desert do add a measure of economic well-being to the "gateway" communities.

Results of this survey were reported on the internet at the Burning Man website, <http://afterburn.burningman.com/>.

Willingness-to-Pay Value

The value to the recreationist of the free public land recreation experience is referred to as net Willingness-to-Pay value, and represents what economists refer to as Consumer Surplus. This is a value over and above the recreationist's expenditures, and represents what the recreation experience would be worth to the recreation consumer if it were necessary to pay for it. It is a surplus value, a value obtained without additional cost. Estimates of net Willingness-to-Pay values are available from a number of sources, and they are almost always based on questionnaires or interviews with recreationists, and statistical sampling and estimation techniques.

Based on a study prepared for the US Forest Service, Benefit Transfer of Outdoor Recreation Use Values, 2001, the value of recreation on the public lands in the NCA Planning Area, in 2001, was estimated to be \$1,813,685 (2001 dollars). While this may seem high, it represents a weighted average value of only \$28.43 per Visitor Day for all types of recreation, including hunting and fishing. This is the total amount that the recreationists would have been willing to pay for the recreation activity if a fee for participation were required. Those who are accustomed to free access and use of the public land tend to forget that it represents a recreation opportunity and experience that many would be willing to pay for. Participants in the organized recreation events that obtain Special Recreation Permits have paid a fee for that activity, so the Visitor Days spent participating in the organized events are excluded from the estimate.

Burning Man

The participation history of the Burning Man Festival is interesting in that the number of participants practically doubled on an annual basis for the first six years. The first year that BLM issued a Special Recreation permit for the event was 1991 - there were 250 participants. In 1992, the number of participants grew to 600; 1993 - 1,000, 1994 - 2,000; 1995 - 4,000; 1996 - 8,000. In 1997 the Festival was located on private land in the area and 10,000 people participated. The Festival returned to public land in 1998 with 15,000 participants. In 1999, the Festival grew to 23,000, 25,400 in 2000, 25,600 in 2001, and 29,083 in

2002. So, it is clear that even remote public land sites that become popular with recreationists can generate some unusually high recreation participation numbers.

In spite of the great deal of publicity that surrounds the Burning Man Festival, many are unaware that Black Rock LLC, the parent company that produces the festival, is responsible for and provides all of its own services. It is necessary that it does so to conform to specific Stipulations included by BLM in the Special Recreation Permit for the event. For the most recent Festival held, in 2002, Black Rock LLC had an operating budget of \$5.5 million. It conservatively estimated that more than \$1 million was spent in Washoe County. The largest expenditure of \$572,000 was for BLM's Special Recreation Permit Fee. This fee was utilized by BLM to fund \$52,500 in police services from the Pershing County Sheriff's Office; about \$21,000 for motel rooms, meeting rooms, and gasoline - all spent in Gerlach; per diem and overtime costs for a large number of BLM employees, including Park Rangers and Law Enforcement Rangers - who were present on-site for a lengthy period of time both before and after the event; and for rental equipment, administrative costs of processing the application and preparing the stipulations, and the costs of preparation of the Environmental Assessment.

Other direct costs borne by the Burning Man organization included \$140,000 to REMSA (Regional Emergency Medical Services Authority) for 24-hour, on-site medical and emergency services; \$135,000 to North Tree Fire (located in Susanville, California) for on-site fire suppression, \$287,000 to Johnny-on-the-Spot for portable toilets; about \$75,000 to Home Depot for construction materials and supplies, \$70,000 to United Rentals for tools and equipment; \$62,000 to lease water trucks and operators for dust suppression; \$18,000 to the Washoe County Sheriff's Office for additional patrol and law enforcement requirements in Gerlach and the surrounding area; and \$5,000 to the Pyramid Lake Tribal Police for additional highway patrol services in the Wadsworth area.

In addition they bear large expenditures for hotel and motel accommodations, restaurant meals, food supplies for their staff commissary, rental of trucks to transport materials and equipment, rental of recreation vehicles for temporary quarters, and miscellaneous contractual services. All of these

expenditures have a beneficial effect on the regional economy, creating both jobs and income. Full details of their costs and other activities, including the Black Rock LLC Financial Chart are also available on the internet at <http://afterburn.burningman.com/>.

Burning Man has proved to be a very efficient organization and a very good neighbor. It is the largest “Leave No Trace” event in the world. Hundreds of its workers and volunteers spend countless hours preparing the site both before and after the festival. BLM has found no evidence of environmental damage caused by any of the Burning Man events. Its organization also contributes volunteer time, particularly at National Public Lands Day, to assist in maintenance of the public lands and resources, and it has become a resident member of the Gerlach community. It now owns and operates the 200 acre Black Rock Station, and lease an adjacent Work Ranch at Hualapai Valley about 13 miles from the playa location of the temporal Black Rock City. These facilities constitute its base of operations and are utilized for administrative purposes and housing, for accommodations for workers and volunteers, and for warehouse storage of the vehicles, trailers, mobile homes, tools, equipment, materials and supplies necessary to support their brief presence in the Black Rock Desert Playa. It has also purchased a 1-acre property in Gerlach, where an office is maintained, and it has leased the Garrett Ranch (also known as the Frog Farm) as a source of water supplies. In 2001, Burning Man contributed \$41,000 to the Gerlach Senior Citizens Center, the Gerlach Volunteer Fire Department, Gerlach High School, the Gerlach Water Tower Restoration Fund, the Jeremy Williams Scholarship Fund, and the Nevada Humane Society.

3.19.4.2 Mining

Currently there is very little minerals activity in the planning area, and no reported production in commercial quantities. There are 73 mining claims accounting for 1,255 acres, with three active opal mines and a geode mine currently in production within the NCA.

There is one geothermal lease in the South Playa area within the plan boundary, and some interest has been expressed with relatively recent exploration activity. Four free-use permits for sand

and gravel are utilized for road construction and maintenance, with 8 additional permits pending authorization. Authorization generally takes from 30 to 60 days, with the bulk of the time being required to perform a cultural resources clearance. No oil and gas leases are currently in effect. Previous oil and gas leases that had been established in the Black Rock Desert have been canceled.

Based on a broadly favorable potential for hot-spring gold deposits, industrial minerals, and semi-precious stones, and a high potential for geothermal energy development, it is hypothesized in the Reasonably Foreseeable Minerals Development Scenario that some minerals development with viable economic production could occur during the life of the plan. The economic potential of hypothetical minerals development is discussed in the No Action Alternative.

3.19.4.3 Road Maintenance and Repair

3.19.4.3.1 Bureau of Land Management

Road mileage within the NCA Planning Area totals 877 miles. This includes 132.7 miles of BLM system roads, 70.1 miles of county roads, and 674.2 miles of unmaintained roads. The 132.7 miles of system roads are classified by functional purpose for maintenance priority. Collector roads, which receive the highest volume of traffic, total 2.1 miles. Local roads, totaling 9 miles, receive lower volumes of traffic and serve fewer users. Resource roads carry very low volumes of traffic and accommodate only one or two types of use. Resource roads total 121.6 miles.

Boundary roads, which are outside of the Planning Area but closely follow the boundary, total 202.8 miles. This includes 73.2 miles of BLM system roads classified as Resource roads, 24.7 miles of county roads, 14.9 miles of State Routes, and 90 miles of unmaintained roads.

Unmaintained roads are not BLM system roads, but are 4-WD roads and trails that receive no maintenance.

BLM’s Winnemucca Field Office annual budget for road maintenance averages about \$170 thousand. The Fiscal Year 2002 annual budget for road maintenance was \$165 thousand. In 2001, it

was \$178 thousand. This is budgeted for the entire area of responsibility (975 miles), and not just for the NCA Planning Area. About half of the budget is expended on the High Road (Secondary State route 48 and 49), which is a 50-mile portion of the road from Gerlach to Winnemucca. This road is actually a Pershing County road, which runs through public land. Pershing County is unable to service this road, and BLM maintains it because it is critically necessary for access to public lands in this area. The road is costly and difficult to maintain because the necessary water and aggregate are not available in the area. This road is outside of the NCA and is not considered a boundary road, so it is beyond the purview of this plan. Nevertheless, as a direct route to Gerlach and the NCA from Winnemucca, it has relatively high use for an unimproved rural road. It does carry some recreation visitor traffic to the NCA, and is important to BLM personnel as primary access to the area for resource management purposes. It is also used by the railroad for track maintenance, and its potential for development of recreational tourism is important to Humboldt County and Winnemucca.

The annual budget for road maintenance includes salaries, equipment and materials. Labor costs are about 50 percent. With this budget level, BLM can maintain about 100 miles per year of the 975 miles of total responsibility. Average cost to blade and shape most BLM roads is estimated at about \$1,000 per mile. Within the NCA, costs are estimated at \$1,500 per mile because the roads are in bad shape, water and aggregate are not readily available and must be hauled in, and the soft and dusty consistency of the soil requires a binder.

While BLM does not have any formal cooperative agreements with the counties, BLM and the counties have cooperated on some projects. BLM provided funding for time and equipment and received very good support. BLM has also provided supplies on appropriate occasions. Free-use pits for aggregate on public land are readily available to the counties as a standard procedure. The BLM Engineer is quite willing to enter into cooperative agreements, but feels that formal agreements are not actually necessary because a very high level of cooperation and goodwill exists. Mutual assistance and support is routinely achieved, and BLM and the counties keep each other informed about maintenance activities and notify each other of problems that need to be addressed.

3.19.4.3.2 Humboldt County

The Humboldt County Road Maintenance Department is staffed with 21 people, 4 short of its normal staffing of 25. Staffing is reduced, at least partially, due to changes in the gas tax allocation. Funding is now sourced only from the gas tax within the County. A former statewide allocation has been discontinued by the legislature, and the tax on diesel fuel is now provided as funding to the Nevada Highway Patrol. The Superintendent and an Administrative Assistant, 5 mechanics, and 14 road crew members all work out of Winnemucca. They are responsible for 1,000 miles of County Roads.

Humboldt County has 39.6 miles of roads within the planning area, and 20.3 miles of boundary roads. The NCA area is serviced out of Denio. Road crew members from Winnemucca are sent to the area on temporary assignment to provide maintenance. That portion of the Soldier Meadows Road within Humboldt County receives maintenance at least once per year. This year, however, it provided maintenance twice and is scheduling a third due to heavy traffic for activities utilizing the road. Formerly, funds were provided to Washoe County through a Cooperative Agreement to maintain Soldier Meadows Road because Washoe County's maintenance yard is more favorably located, but that was discontinued about 4 years ago.

It has had no problems in working within its budget and meeting all of its responsibilities until the Rosebud and Hycroft mines shut down about a year ago. This returned about 45 miles of the Jungo Road to its maintenance schedule and added a significant cost burden. Formerly, the mining companies had maintained the road as a haul road for their trucks, which were hauling up to 60 tons per load, causing substantial stress on the road. The Jungo road remains capably maintained, however, and is rocked all the way to the Hycroft mine location near Sulphur. The quality of available aggregate is not very good and the source is too far away. Water is obtained from the mine site through an agreement with Hycroft mine, and 3 wells are used along the Jungo Road.

There was an interest at the State level in the 1960s to pave SSR 48 and 49 all the way through to Susanville, California. This was known as the "Winnemucca to the Sea" Project. In 2001, this

proposal was partially revived with interest from Senator Reid's staff. At that time, improvement of the road from Winnemucca to Gerlach was under discussion. Three options were considered, including construction of the road to full Nevada Department of Transportation specifications. Cost considerations have discouraged the project, but it remains a valid proposal. It would also serve as a truck route and could potentially reduce delivery and transportation costs. The drive between Winnemucca and Gerlach takes about 4 hours by way of Fernley; it would require less than 2 hours via the Jungo Road with the proposed improvements.

Humboldt County's road maintenance budget is adequate to effectively meet all of its responsibilities. Additional sources of good quality aggregate and water would facilitate its effort and ease some of the present constraints. Coordination and communication with BLM is excellent.

3.19.4.3.3 Pershing County

The Pershing County Road Maintenance staff is composed of 9 employees plus the Superintendent and an Administrative Assistant. There are 5 road maintenance crew members and 2 mechanics in Lovelock, with 1 crew member permanently stationed in Grass Valley, and 1 more at Imlay. Annual budget is about \$960 thousand, with responsibility for about 1,875 miles of road.

Pershing County has very limited funds. Road maintenance and repair is funded exclusively from the gasoline tax, and there are only 5 gas stations in the County. Revenues from the gasoline tax do not include tax from diesel fuels, which are a source of funding for the Nevada State Highway Patrol. Formerly the tax on diesel fuel was also included in the funding for County road maintenance and repair, but this was reallocated by the legislature to the Highway Patrol. This has created a hardship, particularly in counties such as Pershing, with small populations. Diesel powered pick-up trucks are very popular among local residents who work in the agriculture and mining industries. The State is currently trying to develop a more equitable system for distribution of road maintenance dollars.

Currently, there is not sufficient funding, time, or staff to perform any maintenance within the NCA. There are 20.9 miles of Pershing County roads in the NCA planning area, and 4.4 miles of

"boundary" roads. Humboldt County road 200, the Soldier Meadows road, has a relatively high amount of traffic and has many visitors. This is the main road north through Soldier Meadows, from Secondary State Route 34, just north of Gerlach, to the Sheldon Range. The portion of this road that runs through Pershing County, about 20.9 miles, is the only county road in the NCA. The Pershing County portion of this road is maintained by BLM.

About 50 miles of the High Road, from Empire to Sulphur (Secondary State Route 48 and 49), is in Pershing County; this road is also maintained by BLM because it provides primary access to the NCA area for BLM personnel in the conduct of resource management programs. In cooperation with BLM, Pershing County recently assumed the responsibility for maintaining a BLM road in the area south of the High Road, at Tenmile, which provides important access to Pershing County residents. Tenmile is located about 2 miles northeast of Selenite Peak.

Pershing County reports that it has always had excellent cooperation and communication with BLM. It was noted that a critical problem that BLM and all of the counties share in this area is the lack of available water, which is an essential requirement for proper road maintenance. There is also a need for access to more sources of aggregate. If water and aggregate were more readily available, costs of maintenance could be reduced.

3.19.4.3.4 Washoe County

The Washoe County Road Department, in Gerlach, is responsible for 82.12 miles of paved road, and 381.66 miles of unimproved roads. It operates from its own budget, which is adequate for its needs; but it is 2 positions short of its full complement of 16 people because of funding. Currently, 12 employees are stationed in Gerlach and 2 in Vya. The Gerlach personnel include the Superintendent, 9 maintenance crew members, and 2 mechanics. The State provides supplemental funding for maintenance of State Roads.

Only 5.6 miles of Washoe County roads are within the Planning Area. This is a short portion of Secondary State Route 34 at the southwest edge. Washoe County maintains this road, with twice-a-year maintenance through Vya and to the Oregon State line. However, this road is closed in winter, about 30 miles north of Gerlach, because it

becomes generally impassable in winter weather conditions. A small portion of SSR 34 runs through Pershing County, but Pershing County is unable to fund support for Washoe County's maintenance of this area. The County is currently considering discontinuing maintenance of SSR 34 as a cost saving measure, but the Road Maintenance Station at Vya will still be necessary to service other roads in the northern portion of the County.

Washoe County also maintains SSR 8A from the state line, west of Vya, to just past Fish Spring Camp at the Humboldt County line. This road is at the northwest edge of the planning area and, though unpaved, it is heavily used because it provides access to the Sheldon National Wildlife Refuge, and through to State Route 140, which is a good paved highway to Oregon, to the north, or Denio, to the east. This road, too, receives no winter service, but would be a very busy road if it were paved.

Formerly, Washoe County maintained Soldier Meadows Road, through an agreement with Humboldt County. Humboldt County discontinued that funding, and now maintains the Humboldt County portion of the road with its own crews.

Cooperative relations with Humboldt and Pershing Counties and BLM are excellent. There is good communication and good understanding of each other's problems. The need for aggregate pits and the availability of water are primary concerns.

3.19.4.4 Law Enforcement and Court Costs

3.19.4.4.1 Bureau of Land Management

The BLM Winnemucca Field Office currently has one full-time Law Enforcement Ranger, with an additional position, which is shared with another office, filled half-time. There are two vacant positions at Winnemucca that have not been filled due to insufficient funding. The area of responsibility covers 8.2 million acres managed by the Winnemucca Field Office, and includes approximately 525,000 acres within the NCA. Patrolling the entire area of responsibility is infrequent with limited manpower, so the focus is directed to areas of concern. The NCA is patrolled as often as possible. In addition to law enforcement personnel, the NCA has one Park Ranger available to patrol the area and assist the public on a 30-hours

per week basis; although the ranger does not have law enforcement authority.

Not including the Burning Man Arts Festival, law enforcement incidents average about 120 per year, with about 50 in the NCA, and are rarely of a serious nature. Problems generally involve such things as compliance violations for Special Recreation Permits, open fires in fire restricted areas, littering, violations of the Wilderness regulations, trespass into closed areas, vandalism to signs, some violations regarding the use of hot springs, violations of the Archaeological Resources Protection Act, and an average of about two motor vehicle accidents per year. Cooperation with all County Sheriffs is excellent and very effective. No Memoranda of Understanding or Cooperative Agreements exist, except for unusual circumstances such as Burning Man.

For Burning Man, BLM shares principal law enforcement responsibility with the Pershing County Sheriff's Office. BLM had 20 uniformed officers in attendance, recruited for temporary duty from BLM offices throughout the state. There were 248 misdemeanor citations issued by BLM, and 3 felony arrests. About half of the misdemeanor citations were for possession of narcotics; the balance included such violations as illegal fireworks, and violations of closure orders.

BLM's Surprise Field Office has two Rangers, one of which was recently hired for patrol in the NCA. Area of responsibility covers the 1.5 million acres managed by the Surprise Field Office and includes about 275,000 acres in the NCA. For this office as well the staffing resources are spread thin, but the NCA is patrolled everyday. Patrolling activities occur essentially where the need is, and the NCA is the area of highest use for these rangers. There is heavy recreational and hunting use in this area of the NCA. The NCA might be patrolled extensively one or two days a week.

The Surprise Field Office Ranger reports the same type of violations that occur for the Winnemucca Office, with some emphasis on OHV intrusions into closed areas. There were 19 citations last year for entering closed Wilderness Areas, and about 15 warnings. The fine for violation of a closure area is currently \$150. Cooperation with all County Sheriffs is excellent, and there are no MOUs or Cooperative Agreements. The usefulness and advisability of such agreements have been discussed in the past, but it was agreed

that everything was going so well that there was no need for formal agreements at the present time.

Destruction of paleontological and cultural resources continues to be a problem, with evidence of looting by professionals and incidental vandalism by the casual recreationist.

Individuals arrested on NCA public lands are taken to the U.S. Federal Court for arraignment and trial. In cases where detention is required, all federal prisoners are housed at the Washoe County Detention Facility under a custodial agreement administered by the U.S. Marshal.

3.19.4.4.2 Humboldt County

The Humboldt County Sheriff's Office has 47 employees, and 33 of these are sworn peace officers. There are 18 employees within the Patrol Division, including 3 Sergeants, 1 Investigator, 13 Road Deputies, and 1 Civil Deputy. They are fully equipped with state-of-the-art equipment and vehicles. Facilities include an 84-bed Detention Center with 13 sworn peace officers and a sophisticated Communication Center.

With 6,210,560 acres (9,704 square miles) in Humboldt County to patrol, the resources of the Sheriff's Office are adequate, but not abundant. There are no planned or scheduled patrols within the NCA area, but the area is patrolled incidentally. Three resident deputies in McDermitt and one in Oroville handle that area of the County. They are fully prepared to respond to any requests for assistance or emergencies in the area. As a general rule, they do not have any law enforcement problems in the NCA, and nothing of major consequence has occurred within the last three years.

The Humboldt County Sheriff's Office has an existing contract with the U.S. Forest Service. The Forest Service provides funding for patrol and assistance within the National Forest lands, as necessary.

The Humboldt County Undersheriff identified access as the most important concern to Wilderness Areas for law enforcement emergencies and Search and Rescue operations. The Undersheriff identified a need for assurance that motor vehicle or helicopter access for law enforcement or medical emergencies, or in the protection of human life would be ensured.

With regard to court costs, there is no specific information available that identifies costs for court trials or procedures that might have resulted from recreation or visitation to the NCA. Considering that the Sheriff's Office reports no law enforcement problems of major consequence within the last 3 years, it is likely that there have been none.

3.19.4.4.3 Pershing County

The Pershing County Sheriff's Office Patrol Division is comprised of 5 employees: 1 Sergeant and 4 Deputies. There is 1 resident Deputy in the Imlay area, and another in the Grass Valley area. The Jail Division is staffed with 1 Sergeant and 4 Deputies. The jail has a capacity of 26 inmates and provides services to the Nevada Highway Patrol, the Bureau of Indian Affairs, the Lovelock Police Department, and other agencies, as necessary. With 5 Dispatchers and 1 Supervisor, the Communications Division is able to provide radio coverage for the entire County, utilizing 3 repeaters at appropriate locations.

With 3,859,840 acres (6,031 square miles) in Pershing County to patrol, manpower resources are limited in their ability to provide full coverage throughout their jurisdiction. Patrolling of the planning area is not scheduled on a regular basis. Other than the Burning Man Festival, there have been no law enforcement problems in the planning area over the last 3 years. Pershing County does have a mutual aid agreement with Washoe County that requires approval prior to response. Such response can be quickly rendered. The Pershing County Sheriff's Office works effectively with the Washoe County Sheriff's Gerlach Substation. There have been no problems, and no arrests.

Pershing County shares law enforcement responsibility with BLM for the Burning Man Festival, which is held in Pershing County. BLM contracted with Pershing County to provide additional law enforcement officers beyond their normal staffing to provide appropriate coverage for the large attendance. Pershing County was paid \$52,500 to provide this staffing from the Special Recreation Permit fees and recruited temporary, part-time officers from other law enforcement jurisdictions throughout the state. The uniformed presence readily provided assistance to those in attendance.

The Pershing County Sheriff also expressed the major concern of other law enforcement authorities in the area: emergency motor vehicle access to Wilderness Areas. It is believed that this is a serious issue that may impair the capability to meet the responsibilities to the public. It is regarded as necessary and essential that motor vehicle access be permitted in law enforcement emergencies and in the protection or preservation of human life.

The Pershing County District Attorney's Office advises that its case load resulting from recreation activities in the NCA is variable from year to year, but relates exclusively to Burning Man.

3.19.4.4.4 Washoe County

The Washoe County Sheriff's Office possesses all the manpower, skill, training, equipment and capabilities of a modern metropolitan police department. The Patrol Division has two components – the Valley Division, which covers the Truckee Meadows area with a total of 91 deputies and civilians, and the Incline Village Substation with 36 deputies and civilians. Two additional deputies are assigned to the Gerlach Substation to provide law enforcement assistance to the Gerlach-Empire area.

The Officer in charge of the Gerlach Substation had been the only police officer at that location for the last three years until recently when an additional officer was assigned. No significant law enforcement problems within the NCA area have been encountered during the last three years.

The Burning Man Festival is quite unique, and, with approximately 28,000 people in attendance, it imposes its own special problems. In 2001, there were 25,659 participants plus 3,000 volunteers. Principal access to the event in Pershing County is through the communities of Gerlach and Empire, in Washoe County. While the Pershing County Sheriff's Office and BLM were responsible for law enforcement within the Festival area, law enforcement in Gerlach and Empire was provided by the Washoe County Sheriff's Office. Washoe County was also requested to have additional deputies available due to the possibility that more staffing might be necessary to handle any incident that might occur within the festival. Washoe County provided 11 law enforcement officers, and 5

vehicles. Trailers were rented to provide temporary housing for the additional personnel. BLM was billed approximately \$60,000 for these services, which were funded from the Special Recreation Permit fee. Washoe County deputies did patrol the event, but their activity was limited to once or twice per day.

Predictably, there were a larger number of incidents than usual for the Burning Man event. These included 1 felony arrest, 1 gross misdemeanor arrest, 49 traffic citations, 3 vehicle accidents, 2 misdemeanor citations, and about 50 vehicle assists. Most of the incidents were directly related to Burning Man.

For 2002, Washoe County law enforcement services were greatly reduced. Only \$18,000 was received for reimbursement and was consequently limited.

Washoe County Deputies at the Gerlach substation are well aware of, and have frequent contact with recreationists visiting the area because most, if not all, pass through their area of responsibility in Washoe County on their way to the Black Rock Desert in Pershing County. Traffic through the area is almost exclusively on the paved roads.

The officers assigned to Gerlach are busy especially during the summer when the town's population increases with temporary agricultural workers. Activity slows in the winter in the Gerlach area because of the departure of the temporary workers and the greatly reduced number of recreationists visiting the planning area. There were 65 arrests through September 2002, involving mostly narcotics, alcohol, sexual assault, burglary, or reckless driving. Generally Gerlach is a quiet area with an older population and relatively few problems.

The Gerlach Substation provides assistance to Pershing County, but it has handled no more than 5 critical issues for Pershing County in the last 3 years. There are also 2 Nevada State Game Wardens out of Humboldt County who patrol the area, and they have mutual aid agreements with Humboldt and Pershing Counties. They have identified that the most important aspect of law enforcement within the planning area is to educate the public regarding what activities are acceptable or prohibited, particularly with regard to Wilderness entry. It has been observed that there is a problem with destroying and removing signs, especially signs posting road closure to Wilderness.

An important concern has been identified regarding access to Wilderness Areas for law enforcement or medical emergencies, or for search and rescue operations. The need to utilize judgment and act quickly in an emergency, without violating federal regulations is desired, and it is believed that a written agreement would be useful to cover situations or incidents that require resolute and immediate attention.

Except for Burning Man information, the Washoe County Circuit Court is unable to provide information that specifically relates to recreation visitation to the planning area with respect to costs of court time and trials, arrest and processing of prisoners, or housing and maintenance for those who are held for trial or sentenced.

3.19.4.5 Search and Rescue Operations

3.19.4.5.1 Bureau of Land Management

BLM records indicate that there were 22 Search and Rescue operations within the NCA area over the last 3 years: 6 in year 2000, 10 in 2001, and 6 in the first part of 2002. It is expected that more will have occurred in 2002 as a result of hunting season.

All but 1 of these 22 operations was in the northwest arm of the NCA; and was related to hunting activities. All of the 21 legitimate operations were handled out of the Surprise Resource Area, and Search and Rescue was conducted by the Washoe County Sheriff's Department.

Most of the operations result from hunters not returning home as expected. In some cases they have been caught in snow storms, or become stuck in mud or soft surface areas. Some have simply driven into the area with insufficient fuel and run out of gas. Others have had two flat tires resulting from jagged rock edges encountered in off-road travel. Some have simply become lost. There have been two serious incidents in past years – one was a suicide; the other was a death from exposure to a victim who had abandoned his vehicle stuck in the playa. Search and Rescue for the suicide victim was conducted by the Washoe County Sheriff's Office. The Pershing County Sheriff's Office found the exposure victim.

BLM has no Cooperative Agreements or Memoranda of Understanding with any of the Sheriff's Departments in the area for either law enforcement or Search and Rescue. Nevertheless, cooperation and coordination has always been implemented with no problems attendant to area of responsibility or jurisdiction.

3.19.4.5.2 Humboldt County

The Humboldt County Sheriff's Office maintains an active Search and Rescue Team composed of Deputies from all Divisions. It does not have or utilize a volunteer auxiliary because it discovered that training and equipping volunteers was not as cost effective as using professional Sheriff's Deputies trained and supplied with all necessary equipment. A Civil Air Patrol squadron assists with search from the air, using fixed wing aircraft only.

The Sheriff's Office regularly conducts Search and Rescue operations in other areas of Humboldt County, but has not performed within the planning area. Operations in the planning area are generally conducted by the Washoe County Sheriff's Office under a cooperative agreement with Humboldt County. The Civil Air Patrol squadron assists; the Washoe County Sheriff's Office provides ground support; and Humboldt County bears the costs.

3.19.4.5.3 Pershing County

Search and Rescue for the Pershing County Sheriff's Office is conducted by a volunteer group with 15 members. It is available on a regular basis and frequently conducts searches within the County. Ongoing training is conducted in all necessary physical and technical skills. Most of their major equipment, which includes a 4-wheel drive pick-up truck, radios, and a generator, has been donated. The Search and Rescue Unit is a non-profit organization funded by public and private donations and receives minimal funding from the County.

On average, they conduct 1 or 2 Search and Rescue operations per year, but some years there have been as many as 5.

The Sheriff's Office has access to the Nevada State Department of Emergency Management, as do all law enforcement offices, when necessary. It has a mutual aid agreement with the Washoe County

Sheriff's Office, which conducts most of the Search and Rescue operations in the NCA and vicinity.

3.19.4.5.4 Washoe County

The Washoe County Sheriff's Office has a Search and Rescue Unit that has been nationally recognized for its efforts, training, and organization. Two full-time officers are assigned to oversee all aspects of Search and Rescue, supervise the teams of volunteers, and act as liaisons between the teams and the Washoe County Sheriff's Office. There are over 400 volunteers assigned to eight officially recognized, privately organized teams.

Specialized teams include the Air Squadron, Animal Rescue Unit, Communications Unit, Contractors Auxiliary, Hasty Team, Special Vehicles Unit, Venture Crew, Washoe County Search and Rescue, Inc., and Wilderness Finders. They are capable of conducting search and rescue in all conditions and all terrains, and are trained in all the necessary skills and life saving techniques.

During 2001, 461 missions were conducted: 30 for rescue, 104 searches, 62 Community Service, and 265 Training. There were 193 victims, with 172 safely found, 5 lives saved, and 16 deceased or recovered from injuries. Ninety-six percent of all searches (the national average) are resolved during the first eight hours. Washoe County residents and visitors, alike, benefit from emergency search and rescue services, for which there is no charge.

In addition to the above teams, the Washoe County Sheriff's Raven Unit (Regional Aviation Enforcement Unit) has four OH-58 (Bell Jet Ranger) helicopters available for use. Service from these helicopters is available to any emergency service agency (police, fire, etc.) in the Truckee Meadows or nearby communities. The primary missions of RAVEN are responding to calls of crimes in progress, search and rescue missions, counter drug surveillance, and other emergencies such as fire and flood. They routinely assist with rescues of injured people from remote accidents, and provide injury-preventing airborne intervention at special events such as Burning Man.

They work in cooperation with local Fire Agencies and the Pyramid Lake Reservation agencies for search and rescue services, and they regard the Surprise and Winnemucca Field Offices of BLM as an important asset that works with the

Sheriff's Office on searches in the northern part of the County.

While assisting with Search and Rescue is part of the responsibility of the Washoe County Gerlach Sub-station, it does not identify search and rescue as a significant problem. It is recognized that the majority of search and rescue operations are related to hunting, which would occur whether the NCA were in existence or not. The designation of the area as an NCA has not yet had any noticeable effect.

The Washoe County Search and Rescue Unit has Memoranda of Understanding with both Humboldt and Pershing County and conduct almost all of the search and rescue operations in areas of those counties adjacent to Washoe County. It coordinates regularly with BLM's Law Enforcement Unit at the Nevada State Office, and with the District Rangers at the Winnemucca and Surprise Field Offices. The unit believes that working relations with BLM are very cordial, professional, and effective, and it fully understands that vehicle entry into Wilderness Areas is permitted for law enforcement emergencies and for the protection or preservation of human life.

3.19.4.6 Indigent Aid

3.19.4.6.1 Humboldt County

The County Clerk's Office administers the County's Indigent Services Program. It advises that hundreds of vehicles en route to Burning Man travel I-80 South, through Winnemucca to Fernley, and return again following the same route home. The vehicles trail through for several days. The County has not had any indigent hospitalization cases, but do sometimes receive requests for gas or food. It provides up to 10 gallons of gas and/or food packs when requested. There was one request in 2002 and 12 requests in 2001, all from participants in Burning Man.

3.19.4.6.2 Lyon County

The Department of Human Services in Lyon County has had no requests for assistance, and no incidents of indigent hospitalization that were identified with recreational pursuits in the planning area, and none resulting from participation in Burning Man.

3.19.4.6.3 Pershing County

The Pershing County Clerk's Office reports that it has had two indigent hospitalizations in past years resulting from automobile injuries at the Burning Man event. In the first case, the billing was over \$555,000, and was handled by the Nevada State Catastrophic Fund. In these cases, the county pays the first \$25,000, and the State negotiates with the hospital for a discount on the balance. The County was unable to pay this bill and forwarded it to the BLM office in Winnemucca. BLM sent the bill to the Solicitor for a determination of responsibility.

In the second case, the total bill was \$76,705.74. The county paid the \$3,000 deductible on May 29, 1998. The victim's insurance paid \$5,000, and the State of Nevada paid the balance of the bill at a discounted rate.

Many of the participants in Burning Man who reside east and north of Nevada travel Interstate 80 through Winnemucca and Lovelock to Fernley, then north on State Highway 447 to Gerlach. This route is followed in reverse on their return. Over the years there have been six other injuries that required hospitalization from accidents on highways in Pershing County involving people traveling to and from Burning Man without automobile insurance. The County paid the deductible of \$3,000 in each case.

The County also receives requests for assistance from indigent travelers. When requested, the County provides food packs, 7 to 10 gallons of gas, and sometimes bus tickets to Reno or Elko. There were no requests for this assistance in 2002, but there have been several in previous years. The Salvation Army is also available for assistance, if necessary. In 2002, ten couples traveling to Burning Man stopped at the County Clerk's Office to obtain marriage licenses – they were to be married at Burning Man.

3.19.4.6.4 Washoe County

The Washoe County Department of Social Services, like its counterpart in Lyon County, has had no requests for assistance, and no incidents of indigent hospitalization that were identified with recreational pursuits in the planning area; and none resulting from participation in Burning Man.

Table 3-29. Humboldt County Earnings and Employment, by Major Industry, 2000

Industrial Sector	Earnings		Employment	
	\$000	Percent of Total	Number of Jobs	Percent of Total
Agriculture	13,979	4.3	602	6.1
Agriculture Services	2,399	0.7	238	2.4
Mining	93,444	28.9	1,472	15.0
Construction	16,918	5.2	534	5.4
Manufacturing	12,771	4.0	347	3.5
Transportation and Public Utilities	34,860	10.8	655	6.7
Wholesale and Retail Trade	39,871	12.3	1,922	19.5
Finance, Insurance, and Real Estate	7,020	2.2	437	4.5
Services	43,128	13.3	2,209	22.5
Government	59,199	18.3	1,420	14.4
Total	323,589	100.0	9,836	100.0

Earnings include wages and salaries, other labor income, and proprietor income. Earnings represent the principal component of total income, which is further composed of dividends, interest, rent, and transfer payments, less personal contributions for social insurance.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis, Regional Economic Information System, May 2000.

Table 3-30. Modoc County Earnings and Employment, by Major Industry, 2000

Industrial Sector	Earnings		Employment	
	\$000	Percent of Total	Number of Jobs	Percent of Total
Agriculture	10,623	9.6	740	15.7
Agriculture Services	3,694	3.3	158	3.3
Mining	165*	0.2	31*	0.7
Construction	3,145*	2.8	161*	3.4
Manufacturing	3,800*	3.4	110*	2.3
Transportation and Public Utilities	10,345	9.4	185	3.9
Wholesale and Retail Trade	13,908	12.6	734	15.5
Finance, Insurance, and Real Estate	3,702	3.4	244	5.2
Services	14,902	13.5	934	19.8
Government	46,094	41.8	1,429	30.2
Total	110,378	100.0	4,726	100.0

* BLM estimate

Earnings include wages and salaries, other labor income, and proprietor income. Earnings represent the principal component of total income, which is further composed of dividends, interest, rent, and transfer payments, less personal contributions for social insurance.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis, Regional Economic Information System, May 2000.

Table 3-31. Pershing County Earnings and Employment, by Major Industry, 2000

Industrial Sector	Earnings		Employment	
	\$000	Percent of Total	Number of Jobs	Percent of Total
Agriculture	3,902	4.7	312	11.7
Agriculture Services	475*	0.6	51*	1.9
Mining	34,691	41.7	677	25.4
Construction	1,121	1.3	42	1.6
Manufacturing	1,419	1.7	65	2.4
Transportation and Public Utilities	4,233	5.1	59	2.2
Wholesale and Retail Trade	6,443	7.7	420	15.8
Finance, Insurance, and Real Estate	494*	0.6	87*	3.3
Services	3,823	4.6	275	10.3
Government	26,595	32.0	678	25.4
TOTAL	83,196	100.0	2,666	100.0

* BLM estimate

Earnings include wages and salaries, other labor income, and proprietor income. Earnings represent the principal component of total income which is further composed of dividends, interest, rent, and transfer payments, less personal contributions for social insurance.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis, Regional Economic Information System, May 2000

Table 3-32. Washoe County Earnings and Employment, by Major Industry, 2000

Industrial Sector	Earnings		Employment	
	\$000	Percent of Total	Number of Jobs	Percent of Total
Agriculture	8,409	0.0	689	0.3
Agriculture Services	41,498	0.5	2,166	0.9
Mining	48,047	0.6	953	0.4
Construction	763,538	9.1	17,607	7.3
Manufacturing	675,277	8.0	14,870	6.2
Transportation and Public Utilities	603,810	7.2	13,664	5.7
Wholesale and Retail Trade	1,414,932	16.8	50,548	21.0
Finance, Insurance, and Real Estate	741,483	8.8	24,212	10.0
Services	2,969,501	35.2	93,459	38.8
Government	1,164,634	13.8	22,617	9.4
TOTAL	8,431,129	100.0	240,785	100.0

Earnings include wages and salaries, other labor income, and proprietor income. Earnings represent the principal component of total income, which is further composed of dividends, interest, rent, and transfer payments, less personal contributions for social insurance.

Source: U.S. Dept. of Commerce, Bureau of Economic Analysis, Regional Economic Information System, May 2002.

Appropriations	1967	1968	1969	1970
Appropriations	1967	1968	1969	1970
Ministry	1967	1968	1969	1970
Construction	1967	1968	1969	1970
Manufacturing	1967	1968	1969	1970
Transportation and Public Utilities	1967	1968	1969	1970
Wholesale and Retail Trade	1967	1968	1969	1970
Finance, Insurance and Real Estate	1967	1968	1969	1970
Services	1967	1968	1969	1970
Government	1967	1968	1969	1970
TOTAL	1967	1968	1969	1970

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Appropriations	1967	1968	1969	1970
Appropriations	1967	1968	1969	1970
Ministry	1967	1968	1969	1970
Construction	1967	1968	1969	1970
Manufacturing	1967	1968	1969	1970
Transportation and Public Utilities	1967	1968	1969	1970
Wholesale and Retail Trade	1967	1968	1969	1970
Finance, Insurance and Real Estate	1967	1968	1969	1970
Services	1967	1968	1969	1970
Government	1967	1968	1969	1970
TOTAL	1967	1968	1969	1970



Autumn in the South Jackson Mountains looking towards King Lear Peak

Chapter 4: Environmental Consequences

BUREAU OF LAND MANAGEMENT



BLACK ROCK DESERT
HIGH ROCK CANYON
EMIGRANT TRAILS

NATIONAL CONSERVATION AREA

Chapter 4:


Environmental


Consequences

4.1 INTRODUCTION

This chapter analyzes the environmental impacts and effects of implementing each alternative described in Chapter 2. The baseline used for projecting impacts is the current condition or situation described in Chapter 3, Affected Environment. Each program or management action that could impact resources or resource uses has been analyzed, and the conclusions of that analysis are described under the resource consequence sections (Section 4.2) below.

There are many actions that are common to all alternatives or are the same for two or more alternatives. Impacts are discussed under each alternative section, by resource. Actions that are common to all alternatives are considered within each alternative section. Some management actions may affect only certain resources and alternatives. If an activity is not addressed in a given section, it is because no impact is expected.

Within the text of Chapter 4, impacts from actions common to all alternatives are discussed under the No Action Alternative, however, those statements and decisions would apply to all alternatives (No Action, A, B, C).  The reader

will encounter icons similar to those at the beginning and end of this sentence to assist in identifying actions and associated impacts that are common to all alternatives. 

4.1.1 ANALYTICAL ASSUMPTIONS

The following assumptions and guidelines were used to guide the analysis of environmental consequences:

- Funding will be available to implement the alternatives as described in Chapter 2.
- This document assesses the management actions proposed for implementing the legislation creating the Black Rock Desert—High Rock Canyon Emigrant Trails National Conservation Area (NCA). The analysis does not include the effects of resource management decisions identified within the NCA legislation, such as—
 - Land area included in or excluded from the NCA or Wilderness Areas
 - Uses restricted or limited by the NCA Act or Wilderness Areas
 - Providing ongoing reasonable access to privately owned land or interests

- Continued grazing where currently permitted
- Regulation of hunting, fishing, and trapping by the State of Nevada.
- Bureau of Land Management (BLM) policies, including Standards of Rangeland Health and Guidelines for Livestock Grazing Management, will be applied as appropriate across all alternatives.
- Recreation use of the planning area will continue to increase.
- Short-term impacts (where noted) are those impacts anticipated to occur within 1 to 5 years of implementation of the activity. Long-term impacts are those that would occur after the first 5 years of implementation but within the life of the Resource Management Plan (RMP) (projected to be 20 years).
- Appendix A lists the regulatory direction with which all activities must comply, which limits the range of actions.

4.1.2 TYPES OF IMPACTS

This chapter describes the anticipated direct, indirect, and cumulative impacts of implementing the No Action Alternative and each of the three additional alternatives.

The analysis of impacts describes the possible impacts, both beneficial and adverse, that a land use allocation or management action would have on the resource being analyzed. The impacts or change is as compared with the current conditions.

Because of the widely varying user expectations and requirements, many of the actions associated with the different management alternatives have the potential to affect the quantity or quality of each resource.

This impact analysis identifies both enhancing and improving effects to a resource from a management action as well as those that have the potential to degrade a resource. However, the evaluations are confined to the actions that have direct, immediate, and more important effects on the planning area, instead of identifying and evaluating *all* possible, including minor, interactions and cause-effect relationships.

Cumulative impacts are described at the end of the chapter (Section 4.3). This section describes

impacts that the alternatives could have in interrelation with other past, current, and reasonably foreseeable future actions in and adjacent to the planning area. The period of potential cumulative impact is defined as the life of the RMP, or 20 years.

4.1.3 SUMMARIZED CRITICAL ELEMENTS

Analysis and experience with similar management plans indicate that there would be no known adverse impacts on certain critical elements of the human environment: prime or unique farmlands, floodplains, hazardous or solid waste, and environmental justice. These critical elements have not been addressed in the plan because they either are not present in the planning area or would not be affected by the management activities within the alternatives. These critical elements will be considered, as appropriate, in site-specific project design and implementation processes. Discussion of each of these excluded critical elements is provided below.

Prime and Unique Farmlands: There are no prime or unique farmlands, or farmland of statewide or local importance, on public lands within the planning area. None of the actions associated with the alternatives, analyzed in detail, would disturb farmlands. Therefore, impacts on prime and unique farmlands are not analyzed further.

Floodplains: There are floodplains in the planning area, but no projects or activities resulting in permanent fills or diversions in, or placement of permanent facilities on, active floodplains of major rivers are projected to occur with implementation of any of the alternatives proposed. Therefore, impacts on floodplains are not analyzed in detail.

Hazardous or Solid Waste: No hazardous, toxic, or unapproved solid waste sites are known to occur on public lands within the planning area. None of the actions, activities, and uses projected to occur with implementation of the plan alternatives would require the handling, storage, or release of large quantities of these wastes. Therefore, impacts on or

from hazardous and solid wastes are not analyzed in detail.

Environmental Justice: Executive Order 12898, Federal Actions to Address Environmental Justice in Minority and Low-Income Populations, focuses Federal attention on the environmental and human health condition in minority and low-income communities, promotes nondiscrimination in Federal programs, and provides access to public information and an opportunity to participate in matters that may affect these populations.

No disproportionate adverse human health or environmental effects on minority and/or low-income populations would result from this plan. Although implementation of any of the plan alternatives would have a greater effect on the well being of the local low-income populations than on the more affluent populations in other areas of the state and country, because the affected local communities are homogeneous and would be uniformly affected, there would not be an unequal distribution of risks and benefits in those communities from implementation of any of the alternatives.

4.1.4 INCOMPLETE OR UNAVAILABLE INFORMATION

The Code of Federal Regulations (CFR) at 43 CFR 1502.22 mandates that agencies evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement must identify incomplete or unavailable information, if that information is essential to a reasoned choice among alternatives. This RMP/Environmental Impact Statement (EIS) is based on the best available data for each resource. However, sufficient data does not exist at this time for many resource areas. The resources listed below have incomplete or unavailable information.

Cultural Resources: Most of the planning area has not been surveyed for cultural resources. Estimates of the number, type, and significance of archaeological and historic sites were based on

cultural resource inventories for approximately 2 percent of the planning area.

Paleontological Resources: Most of the planning area has not been surveyed for paleontological resources.

Upland and Riparian Areas: Complete data on vegetation composition and condition is not available.

Fish and Wildlife: Complete data on wildlife species occurrence and habitat use and condition is not available.

Water Quality: Limited data is available on water quality.

Noxious Weeds: Most of the planning area has not been surveyed for noxious weeds.

Visitor Use Data: Limited data is available on visitor use, including recreation use, of the planning area.

4.2 CONSEQUENCES FOR RESOURCES FROM ALTERNATIVES

RMPs provide broad guidance and are generally not intended to be site or project specific. Therefore, most impacts discussed in this section are general in nature. Implementation of the RMP occurs through site-specific projects and activity plans, which would require a further detailed, separate NEPA analysis.

This chapter analyzes the impacts of implementing the resource management actions under each alternative contained in this plan. Impacts that the NCA and Wilderness legislation and constraints (presented in Appendix A) would have on resources are not analyzed as part of this document because they are mandated, would not differ between alternatives, and are beyond the

scope of analysis for this plan, even though they might result in impacts on resources.

Current conditions would be maintained where resources might interact but management actions would not have a substantial effect on the resource conditions described in Chapter 3. No impacts are anticipated when a resource management action would not influence the resource being analyzed. Where impacts are provided, a change in current condition is anticipated.

4.2.1 NO ACTION**ALTERNATIVE**

(Continuation of Present Management)

**4.2.1.1 Impacts on
Transportation and
OHV****From Land Health Standards**

No impacts are anticipated.

From Transportation and OHV Management

ALL Improving three access roads with railroad crossings to the playa to meet railroad crossing safety standards would decrease rutting, washboards, dust or mud holes. Resulting effects would include improved drivability, increased safety for drivers, and increased public access to the playa along these three short segments of roads (approximately 4 miles). Site distances and safety warnings would also be improved. **ALL**

ALL If cooperative agreements with Humboldt, Pershing, and Washoe Counties regarding road maintenance are implemented, drivability of 70 miles of county roads could be improved. The occurrence of rutting, washboards, and dust, or mud holes would be reduced, which would create safer roads for drivers. A slight increase in traffic could also occur due to the improved road conditions.

ALL **ALL** Potentially, upgrading the Pershing County portion of Soldier Meadows Road to an all-weather standard would increase public access to the northern part of the NCA. Bringing approximately 16 miles of this low-standard road up to all-weather standard, and continued maintenance of that standard, would increase costs for BLM or Pershing County. **ALL**

Maintaining the existing BLM system roads at their designated maintenance class level would improve the drivability of 182 miles of BLM roads due to decreased rutting, washboards, and dust, or mud holes. Indirectly, safety for drivers and public

access would also be improved. The result would be a small increase in traffic on BLM, state, and county roads and, consequently, increased costs to BLM and, to a lesser degree, to the state and counties. Although designated road maintenance levels would not change under this alternative, because of increased public use of roads within the planning area, it is anticipated that the maintenance of BLM, state and county roads, including directional signs, would need to be increased.

From Cultural Resource Management

ALL Retaining the primitive setting along the emigrant trail viewsheds could diminish drivability, slightly decrease safety for drivers, and decrease public access along short segments of BLM roads (approximately 30 miles) due to increased rutting, washboards, and dust, or mud holes associated with limitations on road upgrades and maintenance on road segments visible from the emigrant trail, primarily in High Rock Canyon and in the southeastern tail of the NCA.

ALL Closing Class A and B historic trail segments to all mechanized vehicles and implementing seasonal closures for vehicle traffic on some Class C historic trail segments would potentially increase safety for drivers on a few short segments (about 17 miles) of vehicle routes that are seasonally closed (e.g., by reducing rutting and mud holes) and reduce incidences of vehicles getting stuck in mud. Permanent and seasonal closures on vehicle routes would reduce public access; however, allowing opportunities to create new parallel routes outside of the immediate viewshed could provide alternate means of access. The permanent and seasonal closures would increase BLM costs (e.g., requiring signage to mark closures). **ALL**

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

No impacts are anticipated.

From Special Designation Management

Maintaining seasonal closure of the High Rock Canyon Road to vehicles from February 15 through March 31 each year would decrease rutting, washboards, and mud holes associated with traffic during wet periods. This would improve the drivability of 17 miles of BLM vehicle trails, increase safety for drivers, and reduce the risk of vehicles becoming stuck in mud. The seasonal closure would also increase BLM costs and decrease public access during a period of closure that receives the least traffic.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.


From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management


 Sustaining or improving sage-grouse winter, breeding, nesting, and brooding habitats; limiting activities that have a high risk of disturbing breeding or brooding sage-grouse; and conducting other habitat rehabilitation and restoration projects in the planning area could limit road upgrades and maintenance on road segments near these areas. This could lead to increased rutting, washboards, and dust or mud holes along short segments of BLM roads, potentially diminishing drivability, safety, and public access in these limited areas.




From Visual Resource Management



Current conditions would be maintained.

From Water Resource Management



 Managing streams to meet the life history requirements of the Lahontan cutthroat trout and desert dace, bring nongeothermal water resources to Class A standards, and manage geothermal sources

for existing populations of native fish or other aquatic organisms could limit road upgrades and maintenance on road segments near Lahontan cutthroat trout or desert dace habitats or other water resources. This could lead to increased rutting, washboards, and dust or mud holes along, at most, a few miles of BLM roads, potentially diminishing drivability, safety, and public access in these limited areas. 

From Lands and Realty Management

 Continuing to acquire private lands within the planning area from willing landowners could lead to improved road conditions on or adjacent to acquired lands by increasing the ability to maintain or increase public access. This could lead to decreased rutting, washboards, dust, and mud holes in these areas, which would improve drivability, safety, and public access. It could also lead to increased traffic in these areas. 



From Minerals and Energy Management

 Exercising valid existing rights or developing mining operations associated with the gold claims in the South Jackson Mountains Wilderness would increase road usage and associated damage and maintenance costs. 

From Recreation Management

Potential playa closures during large special recreation permitted events would continue to cause temporary decreases in public access.

From Public Outreach and Visitor Service Management

 Implementing and supporting programs to increase public appreciation could lead to increased visitation and associated traffic. The traffic volume associated with increased visitation could increase rutting, washboards, and dust or mud holes and cause roads to wear more rapidly. This would potentially diminish the drivability of BLM roads, decrease safety for drivers, and increase maintenance frequency and costs for BLM and, to a lesser degree for the state and counties. 

4.2.1.2 Impacts on Cultural Resources

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

ALL Improving three access roads with railroad crossings to the playa to meet railroad crossing safety standards would decrease integrity of cultural resources, since these improvements could impact prehistoric and historic sites at the three locations. **ALL**

Managing BLM system roads to their functional and maintenance class could decrease the integrity of cultural resources in areas where conflicts arise. This action, however, would limit road braiding, erosion, and other problems associated with unmaintained roads and should have an overall beneficial effect on cultural resources.

Limiting off-highway vehicle (OHV) use in High Rock Canyon and the Lahontan cutthroat trout Wilderness Study Area (WSA) to existing routes could increase protection or site stability by decreasing inadvertent damage to or disturbance of cultural sites. The visual setting of the emigrant trail and other important emigrant locations would also be improved in these areas.

Continuing to designate the remainder of the planning area outside Wilderness as open to OHV use would result in unknown levels of artifact theft, breakage and displacement, vandalism, alteration, and erosion of cultural sites, and other disturbances that would impair the visual setting of the emigrant trail. It is anticipated that there would be impacts to the integrity of other register-eligible sites throughout the open OHV areas.

From Cultural Resource Management

ALL Inventorying the emigrant trail in coordination with Oregon-California Trails Association, prioritizing and conducting additional cultural resource inventories, and conducting inventories and site mitigation as needed for specific projects in the planning area would increase opportunities for collection of data useful

to cultural resource management, increase opportunities for historic preservation awareness and site preservation, enhance opportunities for scientific study and public use of cultural resources, and increase the knowledge of the prehistory and history of the region. Indirectly, inventorying the emigrant trail could lead to increased protection, decreased inadvertent damage and disturbance, protection from vandalism and looting, and maintenance of the integrity of the emigrant trail's setting. **ALL**

ALL Closing Class A and B historic trail segments to all mechanized vehicles and implementing seasonal closures for vehicle traffic on some Class C historic trail segments would increase trail protection, decrease inadvertent damage to or disturbance of cultural sites, decrease opportunity for vandalism and looting, increase opportunities for historic preservation awareness and site preservation, and maintain the integrity of the emigrant trail's setting. **ALL**

ALL Nominating any outstanding eligible resources that are identified and recorded as a result of these inventories for inclusion in the National Register of Historic Places would ensure better protection for these sites, increase opportunities for historic preservation awareness, and increase the public's knowledge of the prehistory and history of the region. **ALL**

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

ALL Maintaining the existing 24,006-acre High Rock Canyon Area of Critical Environmental Concern (ACEC) and 307-acre Soldier Meadows ACEC would continue to provide some protection to cultural resources within these ACECs and would preserve opportunities for collection of data useful to scientific study. **ALL**

Closing the High Rock Canyon Road to vehicles from February 15 through March 31 each

year would prevent damage to the emigrant trail and other important related sites and would maintain the integrity of the trail's setting.

From Vegetation Management

ALL Conducting rehabilitation and restoration efforts on areas burned by wildland fires could lead to inadvertent damage to or disturbance of cultural resources. **ALL**

Maintenance of natural vegetation would have an overall benefit to cultural resources, especially the integrity of the setting.

From Livestock Grazing Management

ALL Continuing to graze lands within the planning area could cause inadvertent damage to or disturbance of cultural resources. **ALL**

ALL Site-specific activities at springs, including modifying spring developments to provide water for wildlife at ground level adjacent to the spring source or removing and restoring projects no longer needed, could cause inadvertent damage to or disturbance of cultural sites. **ALL**

From Wild Horse and Burro Management

ALL The continued presence of wild horses and burros would continue to conflict with cultural resources and could lead to inadvertent damage to or disturbance of cultural sites. **ALL**

From Fire Management

ALL Appropriate management response, prescribed fire, mechanical treatment of vegetation, and limited use of heavy surface disturbing equipment could lead to inadvertent loss of integrity of cultural resources. **ALL**

From Fish and Wildlife Management

ALL Conducting habitat rehabilitation and restoration projects and activities in the planning area could lead to inadvertent loss of integrity of cultural resources. **ALL**

From Visual Resource Management

Designating the playa of the Black Rock Desert, an area along the west side of the Black Rock Range, and the High Rock Canyon corridor, as Visual Resource Management (VRM) Class II

could maintain the integrity of the setting of the emigrant trails. However, designating the remaining portions of the planning area as VRM Class IV could lead to projects that would impact the setting of the emigrant trails.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

ALL Not establishing new utility corridors in Wilderness Areas, the Lahontan cutthroat trout Area, High Rock Canyon, the Black Rock Desert Playa, and along the emigrant trail corridor would increase protection and site stability in these areas, reduce the potential for inadvertent damage to cultural resources, and maintain the integrity of the setting of the emigrant trails. **ALL**

ALL Granting utility rights-of-way outside of Wilderness in support of valid existing rights could lead to inadvertent damage to or disturbance of cultural sites, increase opportunities for vandalism and looting, or impair the integrity of the setting of important cultural resources. **ALL**

From Minerals and Energy Management


Allowing location, entry, and patent on Federal lands in the South Playa Area and routes outside of the NCA, and allowing mineral leasing within the South Playa Area (other than for sodium and potassium) could lead to inadvertent damage to cultural resources and increased opportunities for vandalism and looting.

From Recreation Management

Allowing overnight camping throughout the planning area could lead to inadvertent damage to cultural sites and increase opportunities for vandalism and looting.

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area would increase the knowledge of the prehistory and history of the region, increase opportunities for historic preservation awareness and site preservation, and enhance opportunities for scientific study and public use of cultural resources.

Indirectly, increasing public appreciation of planning area resources could lead to increased protection or site stability, decreased inadvertent damage to or disturbance of cultural sites, decreased vandalism and looting, and improved integrity of cultural resources. 

4.2.1.3 Impacts on Native American Values

Native American values are represented as a desire to preserve certain plant and animal species for traditional uses and to preserve Properties of Cultural and Religious Importance (PCRI) for continued use. Some site types often considered to be PCRI are hot springs, unique geographic features, and burials. To date, no specific PCRI have been identified in the planning area.

From Land Health Standards



No impacts are anticipated.

From Transportation and OHV Management

Managing BLM system roads to their functional and maintenance class could lead to conflicts between Native American values and recreation users, decrease the integrity of PCRI, or impair the visual setting of important Native American locations.

Continuing to leave the planning area outside of Wilderness, High Rock Canyon, and the Lahontan Cutthroat Trout WSA open to OHV use could affect fish and wildlife habitat and populations, due to damage to vegetation, increased erosion, and harassment of animals. This would result in reduced availability for Tribal sustenance hunting and fishing.

From Cultural Resource Management

 Prioritizing and conducting additional cultural resource inventories could lead to the identification of PCRI. Conducting site mitigation as needed for specific projects could lead to conflicts between Native Americans and archaeologists over the removal of sensitive artifacts and features. 

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.



From Wilderness Management

Current conditions would be maintained.



From Special Designation Management



Maintaining the existing 24,006-acre High Rock Canyon ACEC and 307-acre Soldier Meadows ACEC would continue to provide protection to PCRI and preserve the opportunity to pursue traditional uses.

From Vegetation Management

 Protecting native rangeland vegetation and supporting restoration of native plant communities would preserve the opportunity to pursue traditional uses associated with native vegetation. 

From Livestock Grazing Management

 Continuing to graze lands within the planning area could decrease native vegetation and provide fewer opportunities to pursue traditional uses associated with native vegetation. 

 Site-specific activities at springs, including modifying spring developments could increase the integrity of Native American values and preserve the opportunity to pursue traditional uses. However, springs have a high potential to be PCRI, and projects could also lead to conflicts with Native American traditionalists. 


From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

 Allowing trap and transplant activities in Wilderness Areas for native wildlife species and sustaining or improving sage-grouse winter, breeding, nesting, and brooding habitats could

preserve the opportunity to pursue traditional uses associated with native wildlife. **ALL**

From Visual Resource Management

Designating the playa of the Black Rock Desert, an area along the west side of the Black Rock Range and the High Rock Canyon corridor, as VRM Class II would preserve the natural viewshed and the opportunity to pursue traditional uses. However, designating the remaining portions of the planning area as VRM Class IV could lead to projects that would conflict with Native American values.

From Water Resource Management

ALL Managing streams and water resources to meet the life history requirements of the Lahontan cutthroat trout and desert dace, and Class A standards, would increase the populations of native fishes important to Native Americans. **ALL**

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

ALL If development of valid existing rights occurs near PCRI, the integrity of PCRI's may be diminished and the visual setting of important Native American locations could be impaired. **ALL**

From Recreation Management

Allowing overnight camping throughout the planning area and maintaining current restrictions on recreational uses could lead to conflicts between recreationists and Native Americans pursuing traditional practices.

Unrestricted camping along Mahogany Creek would continue to degrade water quality and affect Lahontan cutthroat trout populations, which are important to the Summit Lake Tribe.

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area could lead to increased appreciation of Native American values, decreased inadvertent impacts on sites and resources important to Native

Americans, reduced user conflicts, and increased opportunities for Native Americans to pursue traditional uses. **ALL**

4.2.1.4 Impacts on Paleontological Resources

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Continuing to designate the remainder of the planning area outside Wilderness as open to OHV use could lead to fossil theft, breakage, and displacement; vandalism, alteration, and erosion of sites; and inadvertent damage to important sites.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

ALL Focusing paleontological inventories on the west Arm of the Black Rock Desert, Soldier Meadows, and the Black Rock Desert Wilderness would enhance scientific inquiry and knowledge of the resources. Consequently, paleontological inventories in these areas could also decrease fossil theft, breakage, and displacement; vandalism, alteration, and erosion of sites; and the risk of inadvertent damage to important sites. **ALL**

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Maintaining the existing 24,006-acre High Rock Canyon ACEC would reduce the risk of inadvertent damage to important sites; fossil theft, and breakage; and vandalism, alteration, and erosion of sites, and enhance scientific inquiry and public use.

From Vegetation Management

No impacts are anticipated.



From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

 The limited use of heavy surface disturbing equipment could increase the risk of inadvertent damage to important sites. 

From Fish and Wildlife Management

No impacts are anticipated.

From Visual Resource Management

No impacts are anticipated.



From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

Maintaining the utility corridor that parallels the Union Pacific Railroad tracks could cause inadvertent damage to important sites and increase the potential for fossil theft, breakage, or displacement, and vandalism, alteration, or erosion of sites.



From Minerals and Energy Management

 Development of valid exiting rights could result in inadvertent damage to important sites; fossil theft, breakage, or displacement; and vandalism, alteration, or erosion of sites. 

From Recreation Management

Allowing legal and noncommercial collection using nonmotorized hand tools without permit and petrified wood collection with limits could result in inadvertent damage to important sites; fossil, theft, breakage, or displacement; and vandalism, alteration, or erosion of sites.

From Public Outreach and Visitor Service Management

 Implementing and supporting programs that increase public appreciation of the values of the planning area could lead to increased appreciation of paleontological resources, which in turn could lead to decreased conflicts and risk of inadvertent damage to important sites, enhanced scientific inquiry and/or public use, and decreased fossil theft and vandalism. 

4.2.1.5 Impacts on Wilderness

Wilderness characteristics may be directly or indirectly impacted by various management actions from recreation, wilderness, special designations, vegetation, grazing, wild horses and burros, fire, fish and wildlife, water, minerals, and outreach. Management decisions in the plan may have beneficial or adverse impacts on such wilderness characteristics as naturalness, opportunities for solitude, or opportunities for primitive and unconfined recreation.



From Land Health Standards

Applying Rangeland Health Standards to grazing activities would maintain naturalness.

From Transportation and OHV Management

Current conditions would be maintained.



From Cultural Resource Management

 Focusing cultural inventories on Wilderness Areas would help manage special cultural features. 


From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

 Focusing paleontological inventories on the Black Rock Desert Wilderness would help manage special paleontological features. 

From Wilderness Management

 Managing closed ways inside Wilderness Areas to maintain natural conditions, and

occasionally installing barriers and gates on the closed ways would enhance naturalness inside Wilderness. **ALL**

Signing the Wilderness Area boundaries at approximately 1-mile intervals, along appropriate boundary roads or as needed, would maintain the naturalness, solitude, and primitive recreation values inside Wilderness.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

ALL Using rehabilitation and restoration efforts on areas burned by wildland fires and emphasizing native shrub and herbaceous species would maintain the naturalness of the areas. Use of nonnative seeds for rehabilitation in Wilderness could decrease the naturalness of the area. However, this impact would be less than that associated with allowing undesirable exotic grasses, such as cheatgrass, to establish themselves in the disturbed areas. **ALL**

ALL Controlling weed infestations in Wilderness Areas and the Lahontan cutthroat trout Area by methods consistent with minimum tool requirements would improve native vegetation conditions and consequently enhance or maintain naturalness. **ALL**

From Livestock Grazing Management

ALL Continuing not to graze portions of the Massacre Mountain Allotment associated with High Rock Canyon and the Little High Rock portion of the Bare Allotment on a regular basis would maintain naturalness over a large portion of the East Fork High Rock, High Rock, and Little High Rock Canyon Wilderness Areas. Grazing in these areas might occur under an approved grazing prescription developed specifically to accomplish the objectives of the plan. **ALL**

ALL Excluding the Mahogany Creek Enclosure portion of the Soldier Meadows Allotment from grazing would maintain naturalness on 2,562 acres of the Lahontan Cutthroat Trout Wilderness Study Area. **ALL**

From Wild Horse and Burro Management

ALL Gathering wild horses and burros from the herd management areas to achieve the appropriate management level would enhance or maintain naturalness by reducing the impacts these animals could have on the area. Impacts from excess wild horses and burros could include competition with the areas' native populations of wildlife, overgrazing of riparian areas, and trampling of springs. **ALL**

From Fire Management

ALL Using "minimum impact suppression techniques" for all fire suppression activities would maintain naturalness and solitude. **ALL**

Continuing to manage fire under the existing fire plan would impact naturalness at higher elevations by not allowing the natural disturbance of fire to operate and shape vegetation communities within Wilderness. Naturalness in the Jackson Mountains Wilderness Areas would be maintained because fire would continue to be allowed to burn under certain prescriptions. Unnatural conditions associated with full fire suppression would likely continue at these higher elevation sites under the current fire plan. Naturalness of the lower elevation portions of the Wilderness Areas would probably be maintained because the threats associated with exotic annual grass invasion after a fire event would be minimized under the existing fire plan.

From Fish and Wildlife Management

ALL Allowing trap and transplant activities associated with native wildlife species in Wilderness, if necessary to meet minimum requirements for Wilderness Areas, could maintain or enhance the naturalness and primitive recreation in the areas. Transplant actions could also temporarily decrease the solitude of the area during the actual transplant. **ALL**

ALL Continuing to schedule use of aircraft survey and monitor wildlife populations to avoid high visitor use periods would minimize the flights' impacts on solitude and primitive recreation. **ALL**

ALL Allowing use of aircraft or mechanized equipment to conduct emergency wildlife-related actions and to distribute mineral or medicated blocks for wildlife would decrease the opportunities

for solitude and primitive recreation in the areas during the use of the equipment. **ALL**

ALL Conducting habitat rehabilitation and restoration projects and activities could maintain or enhance the naturalness of the areas. During the implementation of the projects, opportunities for solitude and primitive recreation could be decreased. **ALL**

ALL Not constructing additional wildlife water developments or performing other habitat manipulations to manage naturalized game bird populations in Wilderness would maintain the naturalness and solitude of the areas. **ALL**

Continuing to maintain existing wildlife water developments in Wilderness Areas (five in High Rock Lake, one in Calico Mountains, five in North Black Rock Range, one in the North Jackson Mountains, and three in the Pahute Peak Wilderness Areas) could decrease the solitude of the areas. The existence of the manmade structures also decreases the naturalness on a small portion of the areas.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

ALL Managing the potential recovery of streams to meet the life history requirements of the Lahontan cutthroat trout would maintain or enhance naturalness in the North Black Rock Range Wilderness, North and South Jackson Mountains Wildernesses, the High Rock Lake Wilderness, the Calico Mountain Wilderness, and the Lahontan cutthroat trout WSA. **ALL**

From Lands and Realty Management

ALL Continuing to consider acquisition of private lands within the planning area as opportunities arise would enhance naturalness. **ALL**

From Minerals and Energy Management

ALL Mining operations associated with the gold claims in the South Jackson Mountains Wilderness would impact the wilderness values of the area. Although the footprint of the mining disturbance would be estimated to affect only 500 acres, the sights and sounds of an open pit gold mine would greatly reduce the wilderness values over 50 percent of the entire Wilderness.

Wilderness values in the direct vicinity of the 500-acre open pit mine would no longer exist. However, the probability of this development is less than 10 percent due to low potential. **ALL**

ALL Continuing to withdraw a major portion of the Lahontan Cutthroat Trout Area to location, entry, and patent would maintain naturalness and the special features associated with the WSA. **ALL**

Continuing to leave the routes and boundary roads outside the NCA, but adjacent to the Wilderness Areas, open to location, entry, and patent could decrease naturalness and solitude if mineral development occurs adjacent to the Wilderness Area.

From Recreation Management

ALL Applying restrictions on recreational activities, if resource impacts occur as a result of the recreation activities, would maintain naturalness. **ALL**

ALL Allowing only use of dead and down wood or imported firewood for campfires would maintain naturalness by reducing the cutting of live trees. **ALL**

ALL Requiring all outfitters and guides to adhere to Leave No Trace© principles would maintain the naturalness of the areas. **ALL**

Continuing to allow legal and noncommercial collection of rocks, minerals, and invertebrate fossils without a permit and collection of petrified wood with limits could decrease naturalness.

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area would indirectly increase naturalness, and opportunities for solitude and primitive recreation, by raising awareness of important and sensitive values. Visitors also would be less likely to inadvertently engage in activities that would disturb wilderness values. **ALL**

4.2.1.6 Impacts on Special Designations

4.2.1.6.1 ACECs

The High Rock Canyon and Soldier Meadows ACECs were designated because of their important values and identified needs for special management of those values. This section identifies consequences for those identified values. The special values identified for High Rock Canyon relate to the emigrant trail and associated cultural resources, important wildlife and riparian resources, and the primitive character of the area. The special values identified for Soldier Meadows are associated with a unique hot springs complex and related rare plant and animal species, and cultural resources.

From Land Health Standards

No impacts on the High Rock Canyon ACEC are anticipated; almost none of the ACEC is currently grazed by livestock.

Continuing to apply Rangeland Health Standards to livestock grazing activities would support efforts to maintain and improve habitat for the desert dace, springsnails, and basalt cinquefoil when livestock grazing within the Soldier Meadows ACEC affects it.

From Transportation and OHV Management

Managing BLM system roads to their designated functional and maintenance class would indirectly lead to increased visitation to both the High Rock Canyon and the Soldier Meadows ACECs. During the short term, little change in the current conditions of the two ACECs would be expected. However, increased numbers of recreational users would continue to use the High Rock Canyon ACEC at times and in locations that would result in cumulative, long-term impacts on the important values. Specifically, increased visitor use during the month of April each year could result in disturbance of lambing bighorn ewes, leading to abandonment of important lambing sites near the High Rock Canyon Road. Increased visitor use of the Soldier Meadows ACEC would lead to

increased disturbance of important habitat for the desert dace, springsnails, and basalt cinquefoil.

Limiting OHV use in the High Rock Canyon and allowing open OHV use in the remainder of the planning area would maintain existing disturbance of habitat for bighorn sheep, raptors, riparian systems, and segments of the Applegate Emigrant Trail associated with the use of roads. Vehicle use of several segments of vehicle routes, totaling several hundred yards in length, would continue to directly disturb basalt cinquefoil habitat.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.


From Paleontological Resource Management


No impacts are anticipated.

From Wilderness Management


Current conditions would be maintained.

From Special Designation Management

 Acquiring lands adjacent to an existing ACEC if they contain relevant and important resources could decrease disturbance of important habitat for the desert dace, springsnails, and basalt cinquefoil within the Soldier Meadows ACEC and of wildlife habitat and scenic quality in the High Rock Canyon ACEC. This action would also have a potential to slightly increase visitor appreciation of the values for which the ACEC was created.

 Maintaining a seasonal closure of the High Rock Canyon Road to vehicles, from February 15 through March 31 each year, would continue to protect the primitive character of the canyon and the associated emigrant trail segment by limiting vehicle use during portions of raptor nesting, bighorn lambing, and periods when roads are most likely to be rutted by vehicle use.

From Vegetation Management

 Control of noxious weeds using the best combination of treatment practices developed specifically for the target species and the infested

site would aid in maintaining important habitat for the desert dace, springsnails, and basalt cinquefoil in a natural condition and would protect the primitive character of the High Rock Area and the associated emigrant trail segments. Noxious weed management using Integrated Weed Management techniques would also maintain native vegetation and reduce problems with visitor use in sites sensitive to resource and visual impacts, by decreasing the probability that nonnative invasive species brought by visitors to the ACECs would become established. **ALL**

From Livestock Grazing Management

ALL Continuing not to graze portions of the Massacre Mountain Allotment and the Bare Allotment would protect the primitive character of the High Rock Area and the associated emigrant trail segments. **ALL**

From Wild Horse and Burro Management

ALL Gathering horses and burros from herd management areas to achieve the appropriate management level would maintain the relatively natural disturbance regime of important habitat for the desert dace, springsnails, and basalt cinquefoil and would protect the primitive character of the High Rock Area and the associated emigrant trail segments by limiting wild horse—related disturbance to levels that allow achievement of a thriving ecological balance between horses and other resources. **ALL**

From Fire Management

ALL Rehabilitation and restoration efforts on areas burned by wildland fires would maintain the natural character of important habitat for the desert dace, springsnails, and basalt cinquefoil by reducing soil erosion, promoting healthy vegetation communities, and reducing the risk of invasion by nonnative species. **ALL**

Continuing to manage wildfires under the current fire management plan would result in the following fire management activities that are common to all alternatives.

ALL Designating the Soldier Meadows Area for full fire suppression would maintain the natural character of important habitat for the desert dace, springsnails, and basalt cinquefoil by limiting

disturbance associated with wild fire. Designating the High Rock Area for limited suppression under certain circumstances would protect the primitive character of the canyon and the associated emigrant trail segment by allowing fire to play a natural role in the ecosystem and reducing suppression-related impacts on the ground. **ALL**

ALL Allowing prescribed fire and mechanical treatment of vegetation outside of Wilderness to achieve resource objectives would maintain the primitive character of the canyon and the associated emigrant trail segment through maintenance of vegetation structure and age class diversity. Prescription burning could increase desired disturbance of important habitat for the desert dace and basalt cinquefoil if research shows that fire is an applicable tool. **ALL**

From Fish and Wildlife Management

ALL Maintaining the High Rock Canyon as a Watchable Wildlife Site could increase visitor appreciation of the values for which the High Rock Canyon ACEC was established, by developing a better understanding of the important wildlife and habitat. However, it also could potentially decrease the primitive character of the canyon and the associated emigrant trail segments if visitor use associated with wildlife viewing increases. **ALL**

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

ALL Managing all nongeothermal water resources to Class A or other site-specific objectives and managing geothermal spring sources to meet the needs of the resident wildlife species could decrease disturbance of important habitat for the desert dace and springsnails. If specific restrictions on activities are implemented to meet water quality objectives, improvements in natural resource values would be anticipated. **ALL**

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

ALL Applying restrictions on recreational activities where resource impacts occur and restricting camping to areas more than 300 feet from springs, unless otherwise designated, could eliminate problems with camping on sites sensitive to resource and visual impacts and decrease disturbance of important sensitive habitat for the desert dace, basalt cinquefoil, and springsnails. Recreational restrictions could also provide additional protection of the primitive character of the canyon and the associated emigrant trail segment. **ALL**

Continuing to allow overnight camping throughout the planning area would maintain human-related disturbance of important habitat for the desert dace, springsnails, and basalt cinquefoil and other sensitive areas for which the Soldier Meadows ACEC was created. As visitation increases, the primitive character, visual quality, and natural qualities of the High Rock Canyon ACEC may be diminished.

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area could increase visitor appreciation of the values for which the two ACECs were established and minimize future conflicts with those values. Increasing public appreciation of the ACEC values could minimize resource damage from camping in sensitive areas, decrease disturbance of important sensitive habitat, and protect the primitive character of the canyon and the associated emigrant trail segment. **ALL**

4.2.1.6.2 Wild and Scenic Rivers

Sixteen streams were found to be eligible for designation as Wild and Scenic Rivers because of the outstandingly remarkable values associated with them. Outstandingly remarkable values vary among the stream segments. Specific values for the stream segments can be found in Chapter 3. This section identifies consequences for those identified values. Outstandingly remarkable values may include scenic, geologic, historic and prehistoric, and recreational values, and occurrence of special status species.

Because of NCA, Wilderness, and WSA designations, and existing management, these stream segments already have some level of protection; however, other management actions under each alternative may affect outstandingly remarkable values.

From Land Health Standards

Applying Rangeland Health Standards to livestock grazing would continue to alleviate damage from grazing activities, maintain or improve riparian conditions, and maintain the values associated with the stream segments.

From Transportation and OHV Management

Managing BLM system roads to their functional and maintenance class could decrease soil erosion from vehicular traffic and sedimentation in streams over the long term. These road improvements would occur along 25.25 miles of BLM system roads near eligible stream segments, including High Rock Canyon Road (#37002), Donnelly Creek Road (#2088), Jackson Creek Road (#217), Bartlett Butte Road (#2052), Franks Road (#37005), and High Rock Lake Road (#2054). Other routes also cross or run near eligible stream segments.

Improving access could lead to increased visitation and associated activities that might degrade outstandingly remarkable values.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

ALL Rehabilitation and restoration efforts in areas burned by wildland fires could decrease soil erosion and subsequent runoff into eligible stream segments. **ALL**

From Livestock Grazing Management

ALL Continuing to allow grazing in the Massacre Mountain, Bare, Soldier Meadows, Paiute Meadows, Pine Forest, Jackson Mountains, Happy Creek, and Buffalo Hills Allotments, in accordance with current multiple use decisions and allotment plans, could impact eligible stream segments. **ALL**

ALL Continuing to exclude portions of the Massacre Mountain Allotment and the Bare Allotment from regular grazing would continue to protect the values associated with High Rock Canyon, Mahogany, East Fork High Rock Canyon, and Little High Rock Canyon Creeks. **ALL**

ALL Continuing to exclude the Mahogany Creek Enclosure of the Soldier Meadows Allotment from grazing would maintain the values of Mahogany and Summer Camp Creeks. **ALL**

From Wild Horse and Burro Management

ALL Gathering horses and burros from the herd management areas to achieve an appropriate management level would reduce impacts from overpopulation of wild horses and burros and maintain the values associated with eligible streams. **ALL**

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

ALL Managing streams to meet the life history requirements of the Lahontan cutthroat trout would enhance the fisheries values of Mahogany, Summer Camp, Snow, North Fork of Battle, Colman, Donnelly, Happy, Mary Sloan, and Jackson Creeks.

These streams were all found to be eligible for wild and scenic river designation because of their existing or potential Lahontan cutthroat trout populations. **ALL**

ALL Managing non-geothermal water resources to Class A standards or site-specific objectives and managing geothermal springs for existing populations of native fish or other aquatic organisms could decrease disturbance near riparian areas and enhance outstandingly remarkable values.

ALL

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Continuing the segregation of the Lahontan cutthroat trout Area would maintain the values of Mahogany, Summer Camp, and Snow Creeks.

From Recreation Management

ALL Restricting recreational activities where resource impacts occur and restricting camping to areas more than 300 feet from springs, unless otherwise designated, could decrease disturbance of values associated with eligible stream segments.

ALL

Continuing to allow overnight camping throughout the planning area would continue to disturb sensitive resources and visual quality, which would affect outstandingly remarkable values as visitation increases.

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area could indirectly protect outstandingly remarkable values by decreasing recreational disturbance. **ALL**

4.2.1.7 Impacts on Vegetation

Because decisions related to vegetation management in all alternatives are constrained by the Rangeland Health Standards, few additional, specific decisions related to such management are contained in the alternatives of this plan. The

objectives and actions related to vegetation in all alternatives are considered the minimum necessary to meet Rangeland Health Standards for those resources.

From Land Health Standards



Continuing to apply Rangeland Health Standards to livestock grazing would lead to improved species composition, productivity, and structure of upland and riparian plant communities.

From Transportation and OHV Management

Managing BLM system roads to their current maintenance class would continue to disturb vegetation immediately adjacent to these roads, on a few acres per year.

Continuing to leave the planning area outside of Wilderness, High Rock Canyon, and the Lahontan cutthroat trout WSA open to OHV use would continue to have localized impacts on vegetation where users pioneer new vehicle tracks in vegetated areas.

From Cultural Resource Management

 Closing Class A and B historic trail segments to all mechanized vehicles would have no impacts because generally these segments are not being used by motorized vehicles. Implementing seasonal closures for vehicle traffic on 17 miles of Class C historic trail in High Rock Canyon would maintain vegetation, leading to improved species composition, productivity, and structure of upland and riparian plant communities. 



From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.



From Wilderness Management



 The restoration of approximately 300 miles of vehicle ways within Wilderness Areas would decrease the risk of weed infestation along those ways and improve conditions of native vegetation communities on about 300 acres. 

From Special Designation Management



Current conditions would be maintained.



From Vegetation Management

 Conducting rehabilitation and restoration efforts native seed in areas burned by wildland fires, establishing green stripping to protect rangeland vegetation communities at risk of stand conversion, and allowing seed collection to support restoration of native plant communities would reduce the likelihood that burned areas would become dominated by invasive annual species. 



 Efforts to control noxious weeds would enhance vegetation communities by reducing noxious weed infestations and the likelihood that burned areas would become dominated by invasive annual species. 

From Livestock Grazing Management

 Maintaining the current livestock grazing use authorizations would maintain species composition, productivity, and structure of upland and riparian plant communities. 

 Continuing not to graze the currently ungrazed portions of the Massacre Mountain Allotment, the Little High Rock portion of the Bare Allotment, and the Mahogany Creek Enclosure and the Stanley Camp Pasture of the Soldier Meadows Allotment would allow improvement or maintenance of species composition, productivity, and structure of upland and riparian plant communities. 

From Wild Horse and Burro Management

 Maintaining the current herd management units and appropriate management levels of wild horses and burros would improve or maintain species composition, productivity, and structure of upland and riparian plant communities and lead to the elimination of noxious weeds. 

From Fire Management

Maintaining the existing fire management zones would improve or maintain vegetation conditions for upland and riparian plant communities by providing opportunities for use of fire where beneficial to vegetation and reducing fire occurrence where detrimental.

From Fish and Wildlife Management

ALL Implementing management actions to sustain or improve sage-grouse winter, breeding, nesting, and brooding habitats and implementing other habitat rehabilitation and restoration projects and activities would improve or maintain species composition, productivity, and structure of upland sagebrush and meadow plant communities, especially plant communities with mature sagebrush stands. **ALL**

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

ALL Implementation of the water quality objectives for Lahontan cutthroat trout streams and Class A designation or other site-specific objectives elsewhere could lead to actions that would improve or maintain species composition, productivity, and structure of riparian plant communities associated with streams with existing or potential populations of Lahontan cutthroat trout or other streams requiring changes to meet water quality objectives. Vegetation damage associated with direct and indirect vehicle impacts would also be reduced where actions required for water quality result in closure or improvement of roads. **ALL**

From Lands and Realty Management

ALL Issuing rights-of-way that provide access to private lands outside of Wilderness could result in an increase or continuation of vegetation damage from vehicles on a limited area associated with the access rights-of-way. New access routes for vehicles could increase the spread of noxious weeds along these new routes. This would likely apply to a very small area, because few inholdings would require construction of new access routes, and most rights-of-way would be granted using existing access without increasing the existing disturbance.

ALL **ALL** Granting rights-of-way outside of Wilderness in support of existing mining activities has the potential to degrade species composition, productivity, and structure of upland and riparian plant communities associated with minerals activity, including a low probability that two large mines would be developed in the South Jackson

Mountains and near Rabbithole Spring. Rights-of-way could disturb less than 20 acres and increase the spread of noxious weeds within the planning area. **ALL**

From Minerals and Energy Management

ALL Continuing to leave Federal lands in the South Playa Area and routes outside the NCA open to location, entry, and patent would have a slight potential to cause loss of vegetation because the South Playa is unvegetated and the remainder of the open area has no projected minerals activity. **ALL**

ALL Potential minerals development on existing mining claims; geothermal development in the South Playa Area; and development of 12 gravel pits totaling up to 60 acres, for road maintenance could degrade species composition, productivity, and structure of upland and riparian plant communities associated with minerals activity, including a low probability that two large mines would be developed in the South Jackson Mountains and near Rabbithole Spring. This could disturb several hundred acres and increase the risk of noxious weed establishment within the planning area. **ALL**

From Recreation Management

ALL Applying specific restrictions to recreational activities where these activities have resource impacts could improve vegetation cover, composition, and structure on the few acres where restrictions on visitor use are applied. **ALL**

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area could reduce impacts on vegetation on few acres associated with high public use. **ALL**

4.2.1.8 Impacts on Livestock Grazing

In all alternatives, decisions related to livestock grazing management are constrained by the Rangeland Health Standards and the NCA legislation. Management decisions are based on

existing allotment management plans and related to decision documents.

From Land Health Standards

Applying the existing Rangeland Health Standards to livestock grazing could result in changes to livestock grazing practices, including timing, duration, frequency, intensity, and areas of grazing use, if an evaluation determines that livestock grazing is a major factor in not meeting one or more standards.

From Transportation and OHV Management

Improving the Pershing County portion of Soldier Meadows Road and maintaining BLM system roads at existing maintenance levels would decrease maintenance of ranch vehicles and decrease travel times on the maintained roads.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

ALL Specific actions to restore burned lands and manage noxious weed and invasive species are required constraints and therefore, would have no impact on livestock grazing specific to adoption of this alternative. There is, however, a potential for actions taken under this constraint to decrease operator flexibility related to livestock grazing practices, including intensity, duration, frequency, timing, and areas of grazing use. **ALL**

From Livestock Grazing Management

ALL Maintaining the current livestock grazing use authorizations and the class of livestock in allotments would maintain operator flexibility related to livestock grazing practices, including intensity, duration, frequency, timing, and areas of grazing use. **ALL**

ALL Including Massacre Ranch in the Massacre Mountain Allotment and making it available for livestock grazing as part of a plan for the allotment could increase areas available for grazing and increase operator flexibility related to livestock grazing practices, including intensity, duration, frequency, timing, and areas of grazing use. **ALL**

ALL Maintaining or modifying existing authorized structural rangeland projects, where beneficial to wildlife or other resource values would increase operator flexibility related to livestock grazing practices by providing water, fences, and other types of livestock-related projects. It could also increase areas available for livestock grazing. In addition, it might provide for continued vandalism of livestock-related projects and maintain similar levels of operational expenses for livestock operators. **ALL**

ALL Making adjustments in livestock and wild horse and burro forage and class of use based on monitoring data or on proportions of animal unit months of appropriate management levels could cause changes in operator flexibility related to livestock grazing practices, including intensity, duration, frequency, timing, and areas of grazing use. **ALL**

From Wild Horse and Burro Management

Impacts would be similar to those discussed in the preceding subsection (From Livestock Grazing Management).

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

ALL Allowing animal damage control activities to be conducted, as needed, within the planning area outside of Wilderness would preserve the opportunity to remove predators causing losses of livestock. **ALL**

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

ALL Managing potential recovery streams to meet the life history requirements of Lahontan cutthroat trout and desert dace, managing all nongeothermal water resources to Class A standards, and managing geothermal sources for existing native species and other organisms could decrease operator flexibility related to livestock grazing practices. **ALL**

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Service Management

Current conditions would be maintained.

4.2.1.9 Impacts on Wild Horses and Burros

Direct impacts on wild horses and burros by other resource management decisions in this plan would be minimal and consistent across all alternatives.

From Land Health Standards

Although Rangeland Health Standards do not apply to wild horses and burros, implementation of livestock grazing actions that improve land health on areas occupied by wild horses or burros should also benefit these animals by improving overall vegetation, soil, and water conditions.

From Transportation and OHV Management

ALL Improving the Pershing County portion of Soldier Meadows Road and maintaining BLM system roads at existing maintenance levels would

decrease maintenance of vehicles and travel times associated with horse gather operations. **ALL**

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

ALL Specific actions to restore burned lands and manage noxious weed and invasive species are required constraints and would therefore have no impact on wild horses or burros specific to adoption of this alternative. There is, however, a potential for actions taken under this constraint to change areas used by wild horses or burros or to alter the appropriate management levels. **ALL**

From Livestock Grazing Management

ALL Maintaining existing, authorized structural rangeland projects where beneficial to resource values could maintain portions of herd management areas for wild horse or burro use by providing additional water sources. **ALL**

ALL Adjusting the available forage for wild horses and burros could require changes in appropriate management levels based on monitoring data that shows impacts on resources.

ALL

From Wild Horse and Burro Management

ALL Retaining the current herd management areas and managing the wild horse and burro populations consistent with the Wild Horse and Burro Act of 1971 have the potential to enhance the genetic viability of these populations by maintaining a thriving ecological balance. **ALL**

ALL Managing contiguous herd management areas (with documented reproductive interaction) as complexes has the potential to enhance the genetic viability of horse and burro populations by managing desirable traits in large meta-populations of horses.

ALL Gathering excess horses and burros from the herd management areas to achieve the appropriate management level could result in disruption of the social structure of these animals and increase the harassment and inadvertent mortality of individual animals. **ALL**

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

ALL Sustaining or improving sage-grouse winter, breeding, nesting, and brooding habitats; limiting activities that have a high risk of disturbing breeding or brooding sage-grouse; and performing other habitat rehabilitation and restoration projects in the planning area could require changes in appropriate management levels of horses or burros based on monitoring data showing impacts on these values. **ALL**

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

ALL Managing all nongeothermal water resources to Class A standards, managing geothermal sources for existing species populations and other organisms, and managing potential recovery streams to meet the life history requirements of Lahontan cutthroat trout and desert dace could result in a decrease in appropriate management levels of wild horses or burros and could limit the use of herd management areas by wild horses or burros. **ALL**

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Service Management

Current conditions would be maintained.

4.2.1.10 Impacts on Fire Management

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Managing BLM system roads to their designated uses could improve effective fire protection by decreasing access times to fires. Fire suppression costs could be reduced by providing a more effective road system. The need to use aerial fire suppression instead of ground suppression could be reduced by enabling ground forces to reach fires in a timely manner. Indirectly, this could reduce fire size in some cases by enabling ground forces to reach fires in a timelier manner.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

ALL Restoring burned areas, applying green stripping in areas at risk of conversion to invasive annual species, and controlling noxious weeds

could reduce the size of fires by creating barriers to fire spread and could decrease suppression costs.

ALL

From Livestock Grazing Management

Not grazing areas, including the Mahogany Creek Enclosure, Stanley Camp Pasture, and portions of the High Rock area, would continue to maintain increased fuel loads and could indirectly increase the size of potential fires and fire suppression costs on a few thousand acres where fuel accumulations are likely to affect fire size.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

Maintaining the existing fire management zones would maintain opportunities for use of fire where beneficial to vegetation and reduce fire occurrence where detrimental.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area would potentially improve effective fire protection, decrease suppression costs, and

decrease the potential for human-caused fires by increasing public awareness of fire risks. ALL

4.2.1.11 Impacts on Fish and Wildlife

From Land Health Standards

Continuing to apply Rangeland Health Standards to livestock grazing and managing those activities to achieve the standards could lead to improvements in wildlife habitats.

From Transportation and OHV Management

Continuing to leave the planning area outside of Wilderness, High Rock Canyon, and the Lahontan Cutthroat Trout WSA open to OHV use could affect fish and wildlife habitat and populations, due to damage to vegetation, increased erosion, and harassment of animals.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

Closing the High Rock Canyon Road to vehicles from February 15 through March 31 each year would continue to reduce disturbance during a portion of the bighorn lambing and raptor nesting seasons.

From Vegetation Management

ALL Using rehabilitation and restoration efforts in areas burned by wildland fires, applying green stripping to protect rangeland vegetation communities at risk of stand conversion, and controlling weed infestations would protect wildlife

habitat. Increasing opportunities to restore native vegetation communities could decrease erosion and sedimentation of aquatic habitat, maintain and enhance habitat, and enhance species viability. **ALL**

From Livestock Grazing Management

ALL Maintaining existing authorized structural rangeland projects and modifying all spring developments to provide water for wildlife at ground level adjacent to the spring source would continue to sustain increased wildlife populations in the vicinity of water projects constructed for livestock. **ALL**

From Wild Horse and Burro Management

ALL Gathering horses and burros to maintain the appropriate management levels would continue to allow wildlife and wild horses and burros to coexist in a manner that allows achievement of a thriving ecological balance. **ALL**

From Fire Management

Maintaining the existing fire management zones would improve or maintain the habitat conditions of upland and riparian plant communities by providing opportunities for use of fire where beneficial to vegetation and by reducing fire occurrence where detrimental. In the short term, erosion and sedimentation of aquatic habitat would occur on a few acres adjacent to burned areas and would increase the chance of wildlife's being disturbed on a few hundred acres. In the long term, increasing vegetation diversity and structure would enhance habitat and species viability on limited areas in the planning area.

From Fish and Wildlife Management

ALL Allowing trap and transplant activities associated with native wildlife species in Wilderness, if necessary, would continue to support wildlife populations. **ALL**

ALL Improving sage-grouse winter, breeding, nesting, and brooding habitats and restricting activities that have a high risk of disturbing sage-grouse would decrease the chance of disturbance and would protect and enhance sage-grouse habitats. **ALL**

ALL Continuing to conduct habitat rehabilitation and restoration projects would continue to support wildlife populations. **ALL**

Allowing vegetation manipulation projects in accordance with the BLM Interagency Sage-grouse Guidelines and continuing to maintain the existing wildlife water developments in Wilderness Areas would continue to support the area's wildlife.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

ALL Managing potential recovery streams to meet the life history requirements of Lahontan cutthroat trout and managing all nongeochemical water resources to meet Class A or other site-specific water quality objectives would protect and enhance aquatic habitat and aquatic species viability by decreasing erosion and sedimentation, which could lead to increases in those populations. **ALL**

ALL Continuing to manage the geothermal springs to meet the needs of native aquatic species would continue to protect desert dace, springsnails, and other geothermal dependent wildlife. **ALL**

From Lands and Realty Management


Current conditions would be maintained.

From Minerals and Energy Management

Minerals-related development of the mineral leases, claims, and permits that existed at the time of the NCA legislation could increase erosion and sedimentation of aquatic habitat and the chance of wildlife's being disturbed or harassed. It could also reduce wildlife populations on several hundred acres. In addition, there would be a less than 10 percent chance of the development of two large mines on portions of the planning area in the South Jackson Mountains and near Rabbit Hole Spring. Mineral development activities could also decrease species viability through increased surface disturbance, noise, light, and dust and could degrade habitats.

From Recreation Management


ALL Restricting on recreational activities where resource impacts occur could decrease erosion and sedimentation of aquatic habitat and decrease the chance of wildlife's being disturbed or harassed. If restrictions were applied, inadvertent disturbance by visitors could be reduced and habitat

could be protected or enhanced in the immediate vicinity of the restrictions. 

Continuing to restrict camping to areas more than 300 feet from springs would continue to protect aquatic wildlife and riparian habitat.

Continuing to allow overnight camping throughout the planning area would continue to minimally disturb habitat and wildlife near popular campsites, but the frequency of disturbance could increase as visitation increases.

From Public Outreach and Visitor Service Management

 Implementing and supporting programs that increase public appreciation of the values of the planning area would increase visitor appreciation of wildlife values and indirectly benefit those values by decreasing inadvertent disturbance of vegetation and waters and potential harassment of wildlife.



4.2.1.12 Impacts on Special Status Species

The presence of sensitive species requires that actions be implemented over the long term to recover the species, consistent with the requirements of the Endangered Species Act and BLM policy.

4.2.1.12.1 Plants

Implementation of the No Action Alternative would have no impacts on special status plant species other than basalt cinquefoil. The populations of these species are generally restricted to specialized habitats related to a combination of unique geology or soil features, and the major risk is loss of that habitat due to minerals activities or other surface-disturbing activities. The mineral withdrawal and Wilderness designations associated with the NCA legislation eliminated the potential for these threats.

From Land Health Standards

Requiring livestock grazing to meet Rangeland Health Standards would lead to improved conditions for basalt cinquefoil.

From Transportation and OHV Management

Continued vehicle use of several segments of vehicle routes totaling several hundred yards in length would continue to directly disturb basalt cinquefoil habitat.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

No impacts are anticipated.



From Special Designation Management

Maintaining the existing 307-acre Soldier Meadows ACEC would continue to focus management efforts on preserving and protecting basalt cinquefoil habitat.



From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

 Maintaining existing structural rangeland projects (e.g., fencing) would indirectly protect basalt cinquefoil habitat and populations by providing seasonal control of existing wild horse and burro use. 

From Wild Horse and Burro Management

 Gathering horses and burros from herd management areas to achieve appropriate management levels would maintain existing basalt cinquefoil habitat, decrease disturbance of habitat and species, and potentially increase basalt cinquefoil populations by removing horses that might physically damage individual plants during periods of wet soil conditions. 

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

ALL Conducting habitat rehabilitation and restoration projects and activities in the planning area could improve basalt cinquefoil habitat, benefit individuals, and increase populations where projects target these species or displace potential disturbances to other areas. **ALL**

From Visual Resource Management

No impacts are anticipated.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

ALL Applying restrictions on recreational activities where resource impacts occur could improve basalt cinquefoil habitat, increase species populations, and decrease inadvertent disturbance by visitors where restrictions on recreation activities would be applied to the Soldier Meadows area.

ALL Restricting camping to areas more than 300 feet from springs would decrease inadvertent disturbance by visitors and potentially increase species populations and improve basalt cinquefoil habitat, because most basalt cinquefoil habitat is within 300 feet of springs. **ALL**

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area could decrease inadvertent disturbance by increasing awareness of basalt cinquefoil. **ALL**

4.2.1.12.2 Fish and Wildlife

There are no known impacts on the black tern, least bittern, and white-faced ibis because of the

lack of wetlands and the lack of actions affecting those areas.

The eight sensitive bat species, pygmy rabbit, western burrowing owl, Preble's shrew, Nevada viceroy, northern goshawk, and eight known springsnail types would benefit from actions implementing water quality objectives and Land Health Standards.

From Land Health Standards

Implementation of potential actions related to livestock grazing to meet the habitat requirements of special status species, which is one of the Rangeland Health Standards, would be expected to be one of the primary means of recovering special status species within the planning area.

From Transportation and OHV Management

Continuing to leave the planning area outside of Wilderness, High Rock Canyon, and the Lahontan Cutthroat Trout WSA open to OHV use could cause disturbance of special status species and their habitats.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

ALL Acquiring lands adjacent to an existing ACEC and incorporating those lands into the ACEC would decrease disturbance of habitat for bighorn sheep, desert dace, and several types of springsnail and potentially increase their populations. **ALL**

ALL Designating the Lahontan Cutthroat Trout WSA as an ACEC, if it were released from study area status, would continue to protect Lahontan cutthroat trout habitat by limiting human-related disturbances, which could lead to increased species populations. **ALL**

Maintaining the existing High Rock ACEC would continue to protect bighorn sheep and their habitat. Closing the High Rock Canyon Road to vehicles from February 15 through March 31 each year would reduce human disturbance of lambing bighorn sheep and nesting.

Maintaining the existing 307-acre Soldier Meadows ACEC would continue to focus management efforts on the protection of desert dace and four types of springsnails and the preservation of their habitats.

From Vegetation Management

ALL Using rehabilitation and restoration efforts on areas burned by wildland fires, applying green stripping to protect rangeland vegetation communities at risk of stand conversion, and controlling weed infestations would maintain habitat for special status species, including sage-grouse, pygmy rabbit, Preble's shrew, and western burrowing owl. **ALL**

From Livestock Grazing Management

ALL Continuing current livestock grazing use authorizations and excluding portions of the Massacre Mountain Allotment and the Bare Allotment would maintain habitat for special status species, including sage-grouse, pygmy rabbit, Preble's shrew, springsnails, bats, Lahontan cutthroat trout, and western burrowing owl. **ALL**

ALL Continuing to exclude the Mahogany Creek Enclosure of the Soldier Meadows Allotment from grazing would maintain water and vegetation that provide habitat for the Lahontan cutthroat trout. **ALL**

From Wild Horse and Burro Management

ALL Gathering horses to achieve appropriate management levels and managing horses to achieve a thriving ecological balance would maintain habitats for special status species, including sage-grouse, pygmy rabbit, Preble's shrew, springsnails, bats, Lahontan cutthroat trout, and western burrowing owl, which would maintain species populations at or above current levels. **ALL**

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

ALL Implementing actions to sustain or improve sage-grouse winter, breeding, nesting, and brooding habitats and restricting activities that have a high risk of disturbing sage-grouse would maintain or improve sage-grouse habitat. **ALL**

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

ALL Managing potential recovery streams to meet the life history requirements of Lahontan cutthroat trout would improve habitat quality and potentially decrease habitat disturbance, which could increase populations. Indirectly, improvements to Lahontan cutthroat trout habitat would improve adjacent aspen stands that northern goshawk use. **ALL**

ALL Managing all nongeothermal water resources to Class A or to achieve other site-specific water quality objectives would potentially improve riparian habitats occupied by springsnails, Preble's shrew, sage-grouse, and bats. **ALL**

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

ALL Restricting recreational activities where resource impacts occur and restricting camping to areas more than 300 feet from springs could improve sensitive habitats, increase special status species populations, and decrease inadvertent disturbance by visitors if such restrictions were applied to the habitats of special status species.

ALL Managing geothermal springs to meet the needs of native aquatic species would improve springsnail and desert dace habitats in Soldier Meadows. **ALL**

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area would potentially decrease inadvertent disturbance by visitors. **ALL**

4.2.1.13 Impacts on Visual Resources

There are four VRM classes, which allow varying levels of visually intensive activities, as described in Appendix G. The VRM classes serve as a management guide for approval of future site-specific activities or placement of development. Designation of VRM Classes I and II would protect the primitive visitor experience from potential future actions or developments; whereas, VRM Classes III and IV would allow visually obtrusive or unaesthetic activities to occur in low-profile areas that are not visible from sensitive viewsheds.

From Land Health Standards

Implementing Rangeland Health Standards, leading to improved riparian and upland plant diversity and cover, would improve visual quality.

From Transportation and OHV Management

Limiting OHV use in the High Rock Canyon and the Lahontan Cutthroat Trout WSA to existing routes would enhance the primitive, undeveloped, natural quality of the areas; the sense of isolation in the areas; and the areas' Wilderness characteristics and would improve the setting of the Applegate-Lassen Historic Trail in High Rock Canyon.

Designating the remainder of the planning area outside Wilderness Areas as open to OHV traffic would continue to impact visual resources through soil disturbance and loss of vegetation by allowing proliferation of ways. As visitation increases, visual quality could be further affected.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

ALL Closing all ways in Wilderness to motorized and mechanized vehicles and installing gates or barriers to discourage continued motorized trespass would improve the primitive, undeveloped nature within Wilderness Areas and might enhance the sense of isolation. However, the signage, gates, and barriers installed along the perimeters could be visually obtrusive unless they are designed to be aesthetically compatible with their surroundings.

ALL

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

ALL Establishing green breaks to limit the spread of noxious weeds would increase the number and size of areas of surface disturbance, which would diminish visual quality. Using rehabilitation and restoration efforts in areas burned by wildland fires and controlling weed infestations would improve native vegetation communities and indirectly enhance visual quality within those viewsheds. **ALL**

Continuing to conduct vegetation management activities to meet Land Health Standards would improve riparian and upland plant diversity and cover, which would improve visual quality.

From Livestock Grazing Management

Maintaining existing authorized structural rangeland projects to benefit resource values could diminish the primitive and undeveloped feel within the planning area. However, reduced vegetation damage and riparian damage would enhance visual quality in the long term.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

ALL Maintaining the existing fire management zones and allowing prescribed fire and mechanical treatments outside of wilderness could degrade the

natural setting and visibility in the short term. However, the healthier vegetation communities would enhance visual quality in the long term. **ALL**

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Managing the Lahontan Cutthroat Trout WSA as VRM Class I and managing the playa, an area along the west side of the Black Rock Range, and the High Rock Canyon as VRM Class II could restrict visually obstructive and unappealing activities that interfere with the primitive character of the area. Designating the remaining portions of the planning area as VRM Class IV would contain visually obtrusive activities to a limited area.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

ALL Granting rights-of-way in support of valid existing rights and retaining the two existing utility corridors could introduce aesthetically incompatible or obtrusive materials, which could degrade the settings of historic trails and reduce the primitive, undeveloped naturalness within the immediate viewshed. **ALL**

From Minerals and Energy Management

ALL Continued development, operation, and expansion of most locatable mineral mines on valid existing claims in the planning area would have minimal impacts on visual resources because of the low mineral reserves and the resulting small scale of these operations. However, there is a less than 10 percent probability that development of the higher potential gold-silver deposits in the South Jackson Wilderness and near the historic trail in the southeast tail of the NCA would impact the setting of the historic trails and reduce the area's primitive, undeveloped character; naturalness; sense of isolation; and visual quality. Infrastructure associated with development of geothermal resources in the South Playa would minimally reduce visual quality. Removal of salable minerals such as sand and gravel from existing pits and development of new pits, possibly resulting in as

many as 12 pits disturbing 60 acres, would be restricted to use for the maintenance of roads. This would have minimal impacts on visual resources adjacent to roads in the planning area. Removal of landscape or decorative rock in a 5-acre area of the South Playa would slightly reduce visual quality.

ALL

From Recreation Management

ALL All recreation facilities and signs would be designed to be aesthetically compatible with their surroundings. This would protect visual quality; the setting of the historic trails; and the area's primitive, undeveloped character, naturalness, and sense of isolation. **ALL**

ALL Requiring all recreation permittees to adhere to Leave-No-Trace© principles would enhance the primitive and undeveloped naturalness of the backcountry. **ALL**

Continuing to allow overnight camping throughout the planning area could diminish visual quality where higher concentrations of use are occurring, which could degrade the primitive character of the area and the setting of historic trails.

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the planning area could lead to decreased resource damage, which could improve visual quality throughout the planning area. **ALL**

4.2.1.14 Impacts on Water Resources

From Land Health Standards

Applying Rangeland Health Standards to livestock grazing activities would decrease soil erosion and stream sedimentation, leading to increased hydrologic function.

From Transportation and OHV Management

Managing BLM system roads by functional classification could aid in improving road

conditions, thereby decreasing soil erosion and subsequent sedimentation of streams.

Limiting vehicular use in High Rock Canyon and the Lahontan Cutthroat Trout WSA to existing routes would improve vegetative cover and therefore hydrologic function of water sources. However, maintaining OHV use in the remainder of the planning area outside of Wilderness could lead to increased erosion and subsequent sedimentation as visitor use increases.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

Closing the High Rock Canyon Road to vehicles from February 15 through March 31 to prevent resource damage would reduce erosion and sedimentation of streams, leading to increased hydrologic function.

From Vegetation Management

ALL Vegetation manipulation projects designed to rehabilitate and protect areas impacted by wildfires would increase the hydrologic function of water resources by enhancing vegetative cover. Although short-term impacts may occur due to ground disturbance, no long-term increases in erosion and sedimentation would be anticipated. **ALL**

From Livestock Grazing Management

ALL Allowing livestock grazing on the ungrazed portion of the Massacre Mountain Allotment associated with High Rock Canyon and the Little High Rock portion of the Bare Allotment would increase the potential for soil erosion and subsequent stream sedimentation, leading to decreased hydrologic function. **ALL**

ALL Allowing livestock grazing in the Massacre Ranch as part of a plan for the Massacre Mountain allotment would increase the potential for soil erosion and subsequent stream sedimentation, leading to decreased hydrologic function. **ALL**

ALL Maintaining or modifying existing authorized structural rangeland projects where beneficial to resource values would increase water quality by reducing degradation of water resources by livestock. **ALL**

From Wild Horse and Burro Management

ALL Gathering excess horses and burros from the herd management areas to achieve the appropriate management level and managing the wild horse and burro populations consistent with the Wild Horse and Burro Act of 1971 could result in reduced erosion and subsequent stream sedimentation, leading to increased hydrologic function. **ALL**

ALL Adjusting the available forage for wild horses and burros could result in reduced appropriate management levels and therefore reduced erosion and subsequent stream sedimentation, leading to increased hydrologic function. **ALL**

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

ALL Managing all nongeothermal water resources to Class A standards, managing potential recovery streams to meet the life history requirements of Lahontan cutthroat trout and desert dace, and managing geothermal sources for existing populations of native fish or other aquatic organisms would improve vegetative cover and therefore contribute to enhanced water quality and hydrologic function of streams. **ALL**

From Lands and Realty Management

ALL Authorizing access to private lands outside and within Wilderness Areas via rights-of-way would increase overall access to such lands and thereby result in increased traffic disturbance of roads, which would in turn increase soil erosion and sedimentation of nearby water sources. **ALL**

ALL Construction or development within utility corridors would result in short-term ground disturbance and increased soil erosion and subsequent stream sedimentation, possibly leading to decreased hydrologic function. However, due to the temporary nature of such disturbances, long-term changes to hydrologic function would not be likely. **ALL**

From Minerals and Energy Management

ALL Mining operations associated with the gold claims in the South Jackson Mountains Wilderness would increase erosion and stream sedimentation, leading to increased hydrologic function from construction, vehicular traffic, and other development activities. However, the probability of this development is less than 10 percent due to low potential and would only affect approximately 500 acres. Best Management Practices employed during these activities would reduce impacts on streams and water sources. **ALL**

From Recreation Management

ALL Restricting camping activities within 300 feet of springs and managing the geothermal springs area for existing populations of native fish or other aquatic organisms would reduce the potential for human-related contamination and therefore would result in enhanced water quality.

ALL

As visitation increases in the planning area, continuing to allow camping near riparian areas with no new signage or enforcement would result in greater vehicle and foot traffic that would increase soil erosion, stream sedimentation, and nutrient loading. This would lead to decreased hydrologic function.

From Public Outreach and Visitor Service Management

ALL Implementing and supporting programs that increase public appreciation of the values of the

planning area could decrease the potential for human contamination and thereby enhance water quality. **ALL**

4.2.1.15 Impacts on Lands and Realty

Management actions and decisions relating to land tenure adjustments and access to private lands could impact lands and realty. No impacts would result from management decisions in other resource areas.

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Current conditions would be maintained.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

ALL Impacts from not establishing new utility corridors in Wilderness Areas, the Lahontan Cutthroat Trout Area, High Rock Canyon, the Black Rock Desert Playa, and along the emigrant trail corridor would be minimal because no major utilities are planned for the subject areas and the remoteness of the subject areas does not lend itself to development. **ALL**

ALL Granting utility rights-of-way where in conformance with constraints would accommodate the demand for development. **ALL**

ALL Considering the acquisition of private lands within the planning area would improve the ability of private property owners to dispose of private property with appropriate compensation and reduce the number of inholdings in the planning area, resulting in better management of those areas.

ALL Continuing the acquisition of private lands in previously initiated exchanges would continue to give property owners the ability to dispose of their private property with appropriate compensation and reduce the number of inholdings in the planning area. **ALL**

ALL Discontinuing the issuance of recreation and public purposes leases and Section 302 leases would restrict the development of public lands. **ALL**

Retaining the two existing utility corridors would accommodate existing utilities and encourage the placement of future utilities within them.

Denying rights-of-way for aboveground utilities on the Black Rock Desert Playa north of the Union Pacific Railroad track would encourage their placement south of the railroad track. This would minimize visual impacts on the Black Rock Desert Playa.

For portions of the planning area outside Wilderness Areas, considering and granting rights-

of-way on a case-by-case basis would accommodate some development on public lands while also encouraging development on private lands.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

Current conditions would be maintained.

From Public Outreach and Visitor Service Management

No impacts are anticipated.

4.2.1.16 Impacts on Minerals and Energy

Management decisions could lead to effects on the development of minerals and energy resources that would affect the local economy.

The NCA Act of 2000, as amended, closed the NCA and the Wilderness Areas to mineral location, entry, and patent; to leasable mineral development; and to development of geothermal energy, subject to valid existing rights. Salable mineral development in the NCA was restricted to road maintenance.

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Current conditions would be maintained.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

No impacts are anticipated.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Designating the playa of the Black Rock Desert, an area along the west side of the Black Rock Range, and the High Rock Canyon corridor as VRM Class II would increase the costs of any potential developments.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

ALL Not establishing utility corridors in Wilderness Areas, the Lahontan Cutthroat Trout Area, High Rock Canyon, the Black Rock Desert Playa, and along the emigrant trail corridor would increase the cost of any potential developments.

ALL Retaining the two existing utility corridors would increase the cost of any potential development north of the tracks, but would have no impact south of the tracks.

Denying right-of-way grants for aboveground utilities on the Black Rock Desert Playa north of the Union Pacific Railroad track would increase the cost of any potential development on public lands.

From Minerals and Energy Management

ALL The opportunities for mineral withdrawal would be minimal because the Lahontan Cutthroat Trout WSA has been segregated from mineral development and because the potential for mineral reserves in these areas is low. **ALL**

Leaving Federal lands in the South Playa Area and routes outside the NCA open to location, entry, and patent would preserve opportunities for development.

Leaving Federal lands within the South Playa Area open to development of all leasable minerals except sodium and potassium would preserve opportunities for development of resources.

ALL Potential for mineral development on valid existing claims inside the NCA and Wilderness Areas is low, but a <10 percent potential exists that a gold-silver deposit would be developed in the South Jackson Wilderness Area. Similar potential for gold-silver development exists in the southeast portion of the NCA near Rabbithole Springs. **ALL**

ALL Energy from wind-powered and solar-powered devices could be developed in the planning area outside Wilderness, but the area's long distance from population centers makes this a low potential. **ALL**

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Service Management

No impacts are anticipated.

4.2.1.17 Impacts on Air Quality

Management actions would result in only short-term increases in dust from vehicular use, visitation, or the localized mining activities that occur.

From Land Health Standards

Current conditions would be maintained.

From Transportation and OHV Management

BLM system roads would be assigned to one of four functional classifications and managed

accordingly. Decreased fugitive dust would occur as a result of any road improvements.

Traffic in High Rock Canyon and the Lahontan Cutthroat Trout WSA would be limited to existing routes. The remainder of the planning area would be open. As visitation to the area increases, the fugitive dust associated with increased vehicular traffic would also increase slightly.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Current conditions would be maintained.


From Livestock Grazing Management

Current conditions would be maintained.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

 Use of prescribed fire and mechanical treatment of vegetation would result in short-term, localized episodes of smoke and reduced visibility.



From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.



From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

 Mining operations associated with the gold claims in the South Jackson Mountains Wilderness would create short-term and periodic increased fugitive dust from construction, vehicular traffic, and other development activities. However, the probability of this development is less than 10 percent due to low potential and would occur only on approximately 500 acres. 

Allowing Federal lands outside the NCA to be open to location, entry, and patent would create short-term and periodic increased fugitive dust from construction, vehicular traffic, and other development activities.

In areas that would remain open to location, entry, and patent, long-term increases could also result from continued mining operations. However, these increases would likely be localized and are subject to Federal and state emission regulations.

From Recreation Management

Continuing to allow overnight camping throughout the planning area and evaluating special recreation permits on a case-by-case basis could allow fugitive dust from dispersed recreation and organized events on the playa to increase as visitation increases.

From Public Outreach and Visitor Service Management

No impacts are anticipated.

4.2.1.18 Impacts on Soils

From Land Health Standards

Applying Rangeland Health Standards to livestock grazing activities would continue to decrease soil disturbance, compaction, and erosion from livestock grazing activities.

From Transportation and OHV Management

Managing BLM system roads to their functional and maintenance class would provide for improved road conditions due to set maintenance levels, thus decreasing soil disturbance, compaction, and erosion caused by vehicular traffic.

As visitation increases in the area, allowing vehicular traffic would increase soil disturbance, compaction, and erosion. Limiting the High Rock Canyon and the Lahontan Cutthroat Trout WSA to existing routes would reduce impacts on soils.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

ALL Management of the Soldier Meadows ACEC per the recommendations stated in the Soldier Meadows Activity Plan could reduce long-term potential for increased soil disturbance, compaction, and erosion. ALL

From Vegetation Management

ALL Soil stability would increase due to vegetation manipulation projects, although short-term increases in soil disturbance, compaction, and erosion could occur from ground activity. Long-term increases in soil productivity would be anticipated. ALL

From Livestock Grazing Management

Impacts would be the same as those under Land Health Standards.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

ALL Continuing to limit the use of heavy surface-disturbing equipment in fire suppression activities would result in reduced soil disturbance, compaction, and erosion, thereby protecting soil productivity over the long term. ALL

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Increased access through issuance of rights-of-way to inholdings (private lands surrounded by wilderness) could increase traffic and soil disturbance, compaction, and erosion.

Construction or development within utility corridors would result in short-term soil disturbance, compaction, and erosion.

From Minerals and Energy Management

ALL Potential mining activities on lands available for lease and development would disturb soils and potentially result in accelerated erosion and loss of soil productivity in those areas. ALL

From Recreation Management

Continuing minimal restrictions on camping within the entire planning area would result in greater vehicle and foot traffic. This would disturb soils and potentially decrease soil productivity because of soil disturbance, compaction, and erosion.

From Public Outreach and Visitor Service Management

ALL Long-term soil stability could be improved by outreach methods used to mitigate resource impacts. ALL



4.2.1.19 Impacts on Recreation

The impacts of the planning decisions on the visitor experience depend on the expectations and values of the individual visitor. A particular action could benefit some users and have a negative effect on others. The degree of impact would also vary relative to user sensitivity. Sensitivity will vary among different user types and will be different between new users and traditional users.



From Land Health Standards

Current conditions would be maintained.


From Transportation and OHV Management

 Improving those playa access roads with railroad crossings, and adding them to the BLM road system, would improve the drivability of three short segments of BLM roads. Improved drivability would enhance visitor safety and public access to NCA resources. Improved access could result in a loss of solitude and natural quiet in small portions of the playa margins, including Trego Hot Springs. 

Managing BLM system roads to their functional classifications would have impacts resulting from the completion of backlogged upgrades. Improved drivability of BLM roads would provide improved access throughout the planning area with the potential for increased traffic. There would also be an increased potential for crowding along BLM system corridors, with the potential of reducing opportunities for solitude and natural quiet associated with primitive recreation.

 Closing no additional areas to OHV use, other than required legislative closures to the wilderness areas, would have no additional impact on motorized vehicle access. The perception of recreating in an area free from human disturbance would be enhanced in these areas where OHV use is closed. 

From Cultural Resource Management

 Allowing only nonmechanized transportation on Class A and B trail segments and imposing seasonal restrictions on some Class C trail segments would restrict certain recreational activities in some desirable and traditionally used areas. Decreased vehicular access would impact a

small population of OHV and mountain bike users. However, these restrictions would have the potential of increasing opportunities for solitude and reduce conflict among different user types.





From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Management

 Providing signs specifying Wilderness boundaries would help to increase visitor awareness of sensitive areas. A long-term increase in primitive character would be expected because of reduced motorized trespass and the creation of new ways in Wilderness Areas. These potential outcomes would enhance the perception of recreating in an area free from human development. A decrease in conflict between those using motorized vehicles and those not using motorized vehicles would also be expected. 

Excluding all 10 acquired parcels within the Lahontan Cutthroat Trout WSA from addition to the existing WSA would have long-term impacts on management and the visitor experience. The 1,092 acres within the WSA boundaries would remain as multiple-use land, which would lessen the ability to manage the existing WSA as Wilderness and reduce important values associated with primitive recreation. However, the exclusion from WSA status would retain opportunities associated with motorized travel, which would provide for a wider range of visitors.

From Special Designation Management

The implementation of the Soldier Meadows Activity Plan would have long-term impacts on visitor use and experiences. The visitor freedom of choice and feeling of recreating in an area free from human development would be impacted through the development of designated camp areas, barriers, and interpretive developments. There would be a localized decrease in solitude because of the potential for increased use as a result of additional developed facilities. Interpretive developments would have the potential of increasing visitor

awareness of important and sensitive resources and would likely increase the visitor's sense of appreciation and understanding of those resources. These localized developments would reduce use-related impacts throughout the planning area, thereby enhancing the primitive character in undeveloped sites. However, interpretive developments would diminish the opportunities for learning thorough self-discovery. Any additional restrictions to recreation activities would increase the potential of displacing traditional users to other areas inside and outside of the planning area.

From Vegetation Management

ALL Actions taken to eradicate noxious weeds may include the use of work crews, which would have the potential for short-term loss of solitude. However, these impacts would be offset by the long-term increase in naturalness, which would enhance the perception of recreating in an environment free from human disturbance. A short-term decrease in public access could also be expected in localized areas during the rehabilitation periods. **ALL**

From Livestock Grazing Management

Current conditions would be maintained.

From Wild Horse and Burro Management

ALL The use of helicopters to gather wild horses and burros would have the potential of diminishing critical physical, social, and managerial settings of specified areas by decreasing natural quiet and solitude associated with primitive recreation. Reduced impacts on natural systems would enhance primitive recreation by maintaining or restoring the unmanipulated character of the area.

ALL

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

ALL The use of motorized tools in trap and transplant activities, aerial wildlife population surveys, emergency wildlife actions, or to maintain water development would have the potential of diminishing critical physical, social, and managerial settings of specified areas by decreasing natural

quiet and solitude associated with primitive recreation. Impacts from aerial surveillance would be localized and minimal because they would be scheduled outside of peak use seasons. Allowing wildlife enhancement activities would enhance the ability to manage wildlife populations, thereby indirectly increasing wildlife viewing and hunting opportunities throughout the planning area. **ALL**

ALL Maintaining the Watchable Wildlife Sites in High Rock Canyon, South Jackson Wilderness, and the Lahontan Cutthroat Trout Area would also enhance wildlife viewing opportunities. **ALL**

From Visual Resource Management

Designating the playa of the Black Rock Desert, an area along the west side of the Black Rock Range and the High Rock Canyon as VRM Class II would retain the critical physical, social, and managerial settings of specified areas and enhance the perception of recreating in an area free from human development.

Retaining a VRM Class IV in portions of the planning area outside of High Rock Canyon, the west side of the Black Rock Range, and the Black Rock Desert Playa would have the potential to diminish the perception of recreating in an area free from human development. Certain critical settings of specified areas would be subject to impact relative to development.

From Water Resource Management

ALL Managing potential recovery streams to meet the life history requirements of desert dace and Lahontan cutthroat trout, managing nongeothermal water to Class A standards, and managing geothermal sources for existing populations of native fish or other aquatic organisms would restrict certain recreational activities in desirable and traditionally used areas of riparian and spring complexes. The resulting loss of available recreation sites would have the potential of increasing visitor competition and would diminish opportunities for unconfined recreation. However, management actions taken to protect listed species would enhance the preservation of rare resources for enjoyment by future generations. **ALL**

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

ALL Potential minerals and energy operations could directly impact the primitive and undeveloped character of areas in the immediate vicinity and viewsheds. Administering geothermal leases in the South Playa could result in construction-related activities associated with the extraction of resources, which could reduce public access to portions of the planning area. Mining operations associated with the gold claims in the South Jackson Mountains Wilderness, near Rabbithole Springs, and the potential in and along vehicle access routes could also impact the primitive and undeveloped character of the planning area. However, the probability of this development is less than 10 percent because of low potential. **ALL**

From Recreation Management

ALL Adopting the Nevada Revised Statute restricting camping within 300 foot of springs would have direct and long-term potential to diminish visitors' freedom of choice in campsite location and would enhance the preservation of rare resources for use by future generations. Eliminating camping in spring areas would minimize camping-related impacts and enhance or restore the undisturbed character of localized areas. There would likely be a reduction in competition for use of springs for other recreational activities. However, with an overall loss of recreation sites, there would be an increase in competition for desirable campsites. **ALL**

ALL Allowing open fires only with the use of dead and down wood and requiring a surface protecting device on the playa would decrease visitor spontaneity and may cause inconvenience to users. However, by eliminating burn scars and increasing protection of wooded areas, there would likely be an enhanced perception of recreating in an area free from human disturbance. **ALL**

ALL Requiring all facilities to be unobtrusive and aesthetically compatible with the area's setting would enhance the perception of recreating in an area free from human development. **ALL**

Absence of a permit system for casual use of the planning area would result in a long-term

potential for an increase in visitor conflict and competition for favorite/desirable sites because of increase in use. Opportunities for spontaneous unconfined recreation would be maintained.

Allowing unpermitted, unlimited collection of rock, minerals, and invertebrate fossils could lead to depletion of rare resources for enjoyment by future generations.

From Public Outreach and Visitor Service Management

ALL The development of an outreach plan would have indirect impacts on the primitive character and visitor experience of the area by raising awareness of important and sensitive values. Visitors would be less likely to inadvertently engage in activities that would disturb important resources and other visitors within the planning area. A reduction of use-related impacts would enhance the perception of recreating in an area free from human development. The proposed action would also be expected to reduce conflict between different user types. **ALL**

ALL Expanding public awareness programs, continuing use of the visitor contact trailer, maintaining an information kiosk in Gerlach, and introducing low-impact recreation principles through volunteers and staff would provide long-term direct and indirect benefits to the visitor experience. These interpretive and educational actions would increase a visitor's sense of appreciation and understanding of area resources, as well as a visitor's awareness of important and sensitive values. Increased recreation opportunities would be available through on-the-ground programs and any additional interpretive exhibits. Indirect benefits would stem from a decrease in inadvertent impacts of visitor use, which would enhance the ability to retain critical physical, social, and managerial settings of specified areas. **ALL**

4.2.1.20 Impacts on Social and Economic Conditions

Impacts on Recreation

The designation of an area as an NCA makes it "special" in the perceptions of recreationists, tourists, and general visitors. Ordinarily, this leads

to what recreation professionals refer to as a “designation effect.” A “designation effect” describes the sudden and often substantial increase in visitation that occurs as a result of the legislative or executive action that creates the special management area. Congress designated the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area in December 2000. To date all observation indicates that no such “designation effect” has occurred.

All available evidence indicates that recreation activity in the Black Rock-High Rock NCA is continuing as it always has, with no unusual visitation or activity. Therefore, under this alternative, which represents a continuation of present management, participation rates for both casual recreation use and Special Recreation Permit events may be expected to grow at a normal rate, unaffected, on balance, by management actions. Casual recreation participation would continue to increase as a result of growth in population and personal income, particularly in the Reno-Sparks metropolitan area. Participation in Special Recreation Permit events would grow in response to expanded publicity in the news media and communication on the Internet. More events and more participation may be expected as knowledge of the unique qualities of the Black Rock Desert Playa, and its particular suitability for specific types of recreation, become increasingly well known. The public has already demonstrated a growing interest as a result of publicity associated with the Burning Man event and the land-speed-record event. This publicity has been national and international in scope.

Based on an analysis of future outdoor recreation participation prepared for the U.S. Forest Service, according to *Projections of Outdoor Recreation Participation to 2050* (Bowker, English, & Cordell), visitor days for casual recreation may be expected to increase to about 76,028 visitor days by the year 2020. This analysis was prepared with specific application to Forest Service regions and embodies the established principle that “supply factors such as proximity and availability of recreation resources are important in determining whether and to what degree individuals recreate.” That observation is consistent with BLM data that indicated 68 percent of the NCA visitation is from northern Nevada, with 28 percent from the Sacramento and San Francisco/San Jose areas, and

the remaining 4 percent from other states. The analysis employed here used the Forest Service Rocky Mountain Region, which includes Nevada, for resident recreation projections, and the Pacific Region, which includes California, to project non-resident visitation.

The total of 76,028 recreation visitor days comprises 50,764 resident visitor days and 25,264 nonresident visitor days. These totals result from individual activity estimates for resident days of 16,411 for camping; 914 for picnicking; 14,296 days spent driving for pleasure; 940 spent pursuing educational activities; 929 days for trail-related activities; 14 days in winter activities; 514 days fishing; 4,770 days hunting; and 11,976 days for all other recreation activities.

The 25,264 nonresident visitor days are estimated as follows: 9,159 for camping; 443 for picnicking; 6,435 driving for pleasure; 425 pursuing educational opportunities; 460 days for trail-related activities; 7 days for winter activities; 238 days fishing; 2,101 days hunting; and 5,996 days for all other recreation activities.

Following the procedure discussed in Chapter 3 and applying the expenditure estimates to the estimated number of days for each activity provides a total estimate of expenditures associated with recreation in the planning area of \$2,172,823 for the year 2020. Willingness-to-pay value, the value (or worth) of the experience to the recreationists, is estimated at \$2,134,292 (all estimates are in 2001 dollars).

It is not possible to project with any accuracy the total demand that might ensue for participation in Special Recreation Permit events. Publicity and the public’s interest and enthusiasm would have a greater effect on participation than that which might be attributable to the combined effects of an expanding population and increasing personal income. However, it is reasonable to assume that, except for Burning Man, a most conservative estimate of growth in these activities would be at least equal to the expected increase in participation rates for casual-use recreation, an average of 19 percent growth.

Implications for the Burning Man event are that maximum capacity may have been approached with the attendance of 29,083 persons in 2002. Informal observation and interviews indicate that this results from the limited availability of water for dust abatement and the difficulty of facilitating exit

for this number of people with only a single one-lane road available for egress. While the event has been, and continues to be, exceedingly well managed, these limited resources do impose constraints.

Assuming that Burning Man may be constrained in the future (not by BLM requirements, but by limited facilities and resources) to an attendance of 30,000, and that other Special Recreation Permit participation would grow at the 19 percent rate, total participation for special recreation permit events should reach a minimum of 91,068 visitor days and generate about \$2.5 million in expenditures in the year 2020: \$1,387,142 for residents, and \$1,141,200 for nonresidents.

Using the IMpact Analysis for PLANning multipliers generated for our analysis in Chapter 3, these total recreation expenditures of \$4,701,165 (planning area total of \$2,172,823 plus resident total of \$1,387,142 and nonresident total of \$1,141,200) would generate \$2.3 million in direct labor and proprietor income in the regional economy and would be directly responsible for 106 jobs. The total direct, indirect, and induced effect of these expenditures on the regional economy would amount to \$3.1 million in income and 133 jobs.

The expansion of Special Recreation Permit events would increase demand for public services. It would be important to fully assess potential requirements, for services and resource protection, and ensure that cost-recovery agreements are adequate to provide complete reimbursement for services provided by the county governments, and for federal planning and management services.

In the long term, as all types of recreation participation increase in the planning area, some deterioration and degradation of resource conditions may be expected. This would increase management costs for resource maintenance and protection.

Impacts on Minerals and Energy

Locatable Minerals

A reasonably foreseeable minerals development scenario has been prepared to describe potential mineral resource development. This scenario serves to forecast the kind and degree of minerals development that might reasonably be expected to occur under the No Action Alternative and serves as a benchmark against which the effects

of management prescriptions under the other alternatives may be compared.

It is expected that three small opal mines and one small geode mine would continue operations in the area. Work may be conducted on a full-time or a part-time basis, and it is generally seasonal, not being conducted in the colder months. Operators usually have other employment and conduct their mining operation as a supplement to their regular income, as an avocation, or as a recreational activity.

Earnings are not likely to be high, but some commercial sales could result, with a potential income of up to \$10,000–20,000 per year. Operators are likely to have a permanent residence outside of the local area, so the additional income would not provide much benefit to the local economy. Local expenditures, too, would be small, because these operators usually remain on site while working the mine, with temporary quarters in a trailer located at the mine site, or in a truck with a camper shell. All necessary supplies are usually brought in for the duration of the expected stay. Local purchases may consist of incidental groceries, an occasional restaurant meal, local entertainment, and gasoline. County revenues from net proceeds from mine tax would be minimal.

Based on the probability of a hot-spring gold deposit consisting of an estimated 630,000 troy ounces of gold and 2.4 million troy ounces of silver, it is also forecast that development of one gold and silver mining operation would occur. The mine would most likely be a typical open pit heap-leach operation, but there is also the possibility that an underground mining operation might be more efficient depending on the grade and quality of the ore.

The grade of the ore is not known, but for purposes of analysis, an estimate of 2.4 grams of gold per ton has been determined to be reasonable. It is further assumed that the operation would achieve a 90 percent recovery rate for the precious metals. Annual production would be about 2.2 million grams of gold, with an 8-year operating life.

Exploration to determine the extent and quality of the ore body would begin about 1 year before site preparation and construction and continue at a less intensive level throughout the operating life of the mine. No direct local employment may be expected to result from the exploration activities. Usually an exploration company is contracted for the work;

however, indirect local income and employment may result from field crew expenditures for food and lodging, gasoline and tire purchases, and vehicle maintenance. Industry sources estimate local expenses for the field crews to be \$500 per day.

Site preparation and construction should take about 3–4 years, with operations beginning within the last year of the construction phase. Total construction employment is estimated at 115 people, with wages of about \$3.7 million annually. This employment level may be expected to create additional employment and income in the local area estimated at 44 more jobs with \$920,000 in wages. The operational phase, expected to last 8 years, would employ an estimated 104 persons with total annual wages estimated at \$4.7 million. Based on multiplier and economic impact analysis (Dobra 1988, 1989), this may be expected to create an additional 74 jobs in the local area, and 52 more jobs in the Reno metropolitan area, with additional wages estimated at \$7.3 million.

An underground mining operation would be comparable to that described above, with smaller facilities. About 250 people would be employed during the construction phase, with wages estimated at about \$8 million annually. Construction should take about 1 year. Operations might employ about 150 people, continuing through an 8-year period, with annual wages estimated at about \$6.8 million.

Tax revenue from net proceeds of mines would accrue to the state and to the county in which the mine is located; the amount of that tax revenue would depend on the prevailing price of gold at that time, and the assessment rate of the host county. Taxes would also be paid for sales, use, and property taxes.

Wilderness Area designation requires Class I VRM classification. This classification would constrain mineral development operations and increase costs. Indeed, Class I VRM requirements cannot be met by a gold mining operation, and extensive modification of operations by permit stipulation would be required. VRM Class IV in other locations would have little effect on development.

It is expected that the majority of the construction and operations employees would reside in the Fernley area, where housing and services, and community infrastructure are adequate to accommodate the additional population, and

access via highway can provide a reasonably comfortable commute. However, it is likely that some employees would reside in Washoe County and commute from Reno and Sparks. Some others might commute from Winnemucca or Lovelock.

Leasable Minerals

The development of one 20-megawatt geothermal power plant within the planning area would be a positive short- and long-term benefit to the county in which it may be located, and to the local and regional economies. Tax revenues would be enhanced and short- and long-term employment opportunities would be created.

Geothermal exploration and development activities, themselves, include very little local employment. Some of the workforce includes regular full-time company employees, primarily supervisory; others may be consultants or contract-hires employed through the exploration companies' established sources.

Geological exploration usually occurs during a 3-month summer field season, while geophysical exploration may occur throughout the year. Exploratory drilling may also occur with development and would also entail expenditures in the local community.

Indirect local income and employment may result from field crew expenditures for food and lodging, gasoline and tire purchases, and vehicle maintenance. Industry sources estimate daily local expenditures of geological field crews to be \$500 per day.

After a suitable location is established, well drilling is initiated and construction is begun. It may be expected that commercial operation would begin about 9 months after project construction is started. Final construction would continue for about another 3 months while commercial production is in effect.

Costs for construction of the power plants and development of the wellfields are estimated at about \$35 million. The construction workforce would probably consist of about 150 workers at the peak of activity, with about 100 persons employed throughout the 12-month construction period. Because of the technical nature of the facilities, it is expected that no more than 60 percent of the construction contracts would be subcontracted to local firms. This would provide an estimated 60–90 construction jobs for the local communities. An

additional economic benefit would derive from incoming construction workers who would be housed and provisioned within the local economies, probably taking up temporary residence in Gerlach, Fernley, or Winnemucca.

Operation of the power plant and wellfield would probably require 12 permanent employees: 8 operators and helpers, 2 maintenance personnel, a foreman, and a supervisor. Seven or eight of these employees might be hired locally. Total salaries are estimated at \$534,000. Additional workers may be required over the life of the project for periodic activities such as reworking a well, pulling a pump, or repairing a turbine. Geothermal projects have a predicted 20–30 year economic life.

A location in the South Playa Area, which is Class IV under this alternative, would not be affected by VRM classifications. It is expected that the electric power generated would be sold to the Sierra Pacific Power Company. The operation would pay sales, use, and property taxes, and net proceeds from mines taxes.

Salable Minerals

Nine free-use permits for salable minerals are currently authorized in the planning area, with three additional free-use permits pending. Free-use permits are provided for public purposes and are used by the state, counties, and BLM for road construction and maintenance.

Community pits and free-use permits are usually separate pits, but free-use operations may from time to time, use community pits. Local community use is assessed at 50 cents per ton. Five sales per year are expected from one pit within the planning area.

Three private sales for landscape or decorative rock are anticipated within the area covered by this plan. Private operations are conducted on a contract-of-sale basis, for which BLM receives a royalty on production. Contracts of sale are issued for a specific amount of materials to be extracted within a specified period of time.

The state receives 4 percent of the revenues from sand and gravel sales for the State School Fund. The balance of the money is used to cover the costs of reclamation of the pits. Revenues from sales of sand and gravel are relatively small and are primarily assessed for the purpose of reclamation. The principal value of these commodities is obtained from the cost of labor and equipment for

extraction and transportation, and the haul-distance to the location of use. Close proximity of the source pits to the site of application can represent considerable cost savings to the state and county governments, to private operations, and to BLM.

The No Action Alternative would have no effect on current extraction and use of these commodities.

Impacts on Lands and Realty

Current conditions would be maintained.

Impacts on Road Maintenance and Repair

BLM has responsibility for approximately 975 miles of routes within the planning area. BLM system roads within the NCA total 132.7 miles, and boundary roads comprise another 73.2 miles of BLM system roads. The current capability for road maintenance is about 100 miles per year.

Humboldt County has 39.6 miles of roads within the planning area, and 20.3 miles of boundary roads. It is currently able to maintain all roads within its area of responsibility to a satisfactory level. The additional traffic that might be expected from slowly growing visits for recreation, as projected for this alternative, appears to present no hardship to its capabilities.

Pershing County is already in a tight fiscal situation that makes it impossible for it to maintain its 20.9 miles of roads within the NCA, and 4.4 miles of boundary roads. BLM has been working well with the county and has established excellent cooperation. However, as traffic increases, BLM would necessarily be required to shoulder a larger burden in maintaining the 20.9-mile portion of the Soldier Meadows road, which is a Pershing County road.

Only 5.6 miles of Washoe County roads are within the planning area. No difficulties resulting from increased visits to the area for recreation is anticipated. However, Washoe, Humboldt, and Pershing Counties point out the critical cost-saving importance of aggregate pits and water for efficient road maintenance. Costs for aggregate are about \$70 for 8–10 yards, but hauling costs are high. The greater the distance, the higher the cost.

Impacts on Law Enforcement and Court Costs

BLM's law enforcement capability for the NCA, comparable to the road maintenance and repair services, is insufficiently funded and staffed. For an area comparable in size to the State of Delaware, BLM has only one full-time law enforcement ranger assigned to the NCA. The Surprise Field Office has two law enforcement personnel, one of which was recently hired and is assigned to the NCA. The other spends as much time as possible within the NCA because it is the area of highest use. But the NCA area represents only about 18 percent of the law enforcement personnel's total area of responsibility.

The Winnemucca Field Office has only one and one-half full-time law enforcement rangers. One half-time position is shared with the Las Vegas Field Office. Two vacant law enforcement officer positions at the Winnemucca Field Office remain unfilled because of lack of funding. The NCA is patrolled as often as possible, but it represents only 6 percent of their area of responsibility.

The most important aspect and effective use of law enforcement is presence. By simply being present in the area, or known to be about the area with some frequency, law enforcement becomes more effective. Destruction of signs and other vandalism, damage to resources, intrusions into roadless areas, and cultural resource violations would be diminished by the simple visibility and occasional presence of law enforcement capabilities.

It is critically important that the two vacant positions at the Winnemucca Field Office be filled to provide more effective presence within the NCA. As visitation increases, under this or any of the other alternatives, the need becomes greater. Conflicts between individual recreationists, or groups of recreationists, could arise if particular areas become crowded or overused. Law enforcement is an effective reminder of the appropriateness of civilized behavior.

It is recommended that a specific study be conducted to determine what level of law enforcement would be sufficient to meet the needs of the NCA as recreation visitation increases. Even the two additional positions at the Winnemucca Field Office may prove, in time, to be insufficient, particularly during the summer months of high

seasonal usage. Other solutions might be to negotiate cooperative agreements or assistance contracts with the Humboldt or Pershing County Sheriff's Office when the level of visitation creates a more compelling need.

Neither Humboldt, Pershing, nor Washoe County Sheriff's Offices perceive the NCA area as a problem or concern. Washoe County Deputies currently patrol the northwestern portion of the NCA and have had no major problems. Humboldt County law enforcement patrols on an infrequent basis, which they determine is appropriate to the need. They respond immediately to any requests for assistance. Pershing County Deputies do not patrol the southern portion of the NCA on a regular basis. And, except for the Burning Man Festival, when their presence is contracted, they have had no problems. None of the counties expressed a particular concern about law enforcement requirements at the current level of visitation, and they anticipate no compelling difficulties under the low-level growth in visitation projected for this alternative. They all report excellent cooperation and coordination with BLM. The predominant season of use for the area is from Memorial Day through Labor Day—or about 3 months, and they feel that, so far, current staffing has proven adequate.

Only Pershing County has identified a problem with arrest, incarceration, and trial costs. Such concerns are understandable for a county with a small population and limited tax base. However, all of the incidents have been associated with the Burning Man Festival and the large population of revelers that congregate in the area. The population of Black Rock City, at that time, is 4 to 5 times as large as Pershing County's normal population. Any extra costs are onerous for the county, but the incidents have been relatively few in number.

Effective mitigation has been provided over the years as BLM and its Burning Man Organization cooperators have learned from experience. The Special Recreation Permit stipulations have grown more sophisticated and appropriate to the issues of managing such a large event and have proven to be increasingly effective. Other than continuing to refine the constraints imposed by the Special Recreation Permit stipulations, there is little that BLM can do to guarantee lawful human behavior. Pershing County's law enforcement costs for the festival are

compensated. And, it should be recognized, too, that payments in lieu of taxes are intended to assist counties in the provision of necessary taxpayer services. Federal payments in lieu of taxes to Pershing County in fiscal year 2002 amounted to \$489,334.

Impacts on Search and Rescue Operations

Current conditions would be maintained; however, all of the local sheriff's offices have expressed a concern about access to Wilderness Areas for search and rescue or law enforcement. This impact is minimized by the fact that the BLM authorized officer may, at his or her discretion, allow limited motorized access to Wilderness in emergencies involving the health and safety of persons.

Impacts on Indigent Aid

Current conditions would be maintained under this alternative.

Humboldt and Pershing Counties both identified occasions requiring aid to the indigent. All of Humboldt County's cases, and most of Pershing County's, were incidental assistance, but Pershing County identified a total of eight high-cost cases, over the years, involving hospitalization for injuries to persons. All were associated with the Burning Man Festival. The state does provide an insurance program, to which all counties contribute, to cover such indigent billings. Nevertheless, Pershing County had to pay a \$3,000 deductible in seven of the cases, and the eighth (which was \$25,000) was forwarded to BLM for resolution.

Again, short of continuing to refine the Special Recreation Permit stipulations, there is little that BLM can do to guarantee lawful or responsible human behavior. However, there were no such incidents at the 2002 Burning Man Festival, with nearly 30,000 people in attendance. Because the Burning Man Festival appears to be approaching its natural population limit, it can reasonably be expected that such problems would not increase in the future. Pershing County can, of course, refuse to permit such events if the problem grows beyond that which is bearable. As mentioned above, payments in lieu of taxes are intended to help the counties bear these taxpayer costs.

4.2.2 ALTERNATIVE A

(Emphasis on Natural Processes)

In addition to the impacts from the common to all actions as indicated in the No Action Alternative discussion (Section 4.2.1), the following impacts would also occur as a result of Alternative A.

4.2.2.1 Impacts on Transportation and OHV

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs in the planning area could limit road upgrades and maintenance on road segments required to achieve standards related to soil, vegetation, water, or wildlife habitats in some areas. These limitations could potentially result in increased rutting, washboards, and dust or mud holes in some areas, which would diminish drivability, slightly decrease safety for drivers, and decrease public access along short segments of BLM roads. In other cases, application of the standards could lead to improved drivability of short segments of roads where improved stream crossings are installed to decrease stream sediment associated with vehicles.

From Transportation and OHV Management

In addition to the impacts discussed for the actions common to all alternatives in No Action, reevaluating the functional or maintenance class if vehicle use on any road or route causes damage to resources would potentially decrease rutting, washboards, and dust or mud holes along limited segments of BLM roads and designated routes. This would improve drivability and safety for drivers; however, costs would increase because of maintenance needs on upgraded road and route segments.

Downgrading designated routes receiving vehicle use in excess of capacity to decrease vehicle use levels could potentially diminish the drivability of BLM roads, safety for drivers, and public access

associated with a decline in road condition on a limited number of route segments.

Attempting to acquire public access easements or developing road alignments where public roads cross private property could potentially increase public access to public lands currently blocked by closed private lands.

Limiting OHV use to 286 miles of designated vehicle routes within the 346,191-acre limited use area would decrease public access and potentially reduce future maintenance requirements.

From Cultural Resource Management

Impacts would be the same as those described for the No Action Alternative.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Closing 16 miles of vehicle routes within the Lahontan Cutthroat Trout WSA, except the Bartlett Butte and Pole Creek West BLM roads, would decrease public access and decrease future BLM maintenance needs.

Closing the Lahontan Cutthroat Trout Area to motor vehicles from February to June during the Lahontan cutthroat trout spawning season would temporarily decrease public access to about 22 miles of road during the closure period. However, road damage during wet seasons and the risk of drivers becoming stuck in mud would be reduced. In the long-term, drivability and safety for drivers would be improved. The seasonal closure would also increase BLM costs to implement the closure each year.

From Special Designation Management

Closing portions of the ACEC in High Rock, Little High Rock, East Fork, Mahogany, Grassy, and Yellow Rock Canyons to visitor use from January 31 through May 15 each year would reduce the amount of road damage caused by vehicle use during the wet seasons each year and decrease rutting, washboards, and dust or mud holes, which would improve drivability and reduce the risk of

drivers becoming stuck in the mud. It would also decrease public access to 17 miles of road during a period that receives the least traffic. BLM costs would increase to implement the closures.

Rerouting the existing hot spring access road in Soldier Meadows away from sensitive resources and closing all spur roads would decrease public access to approximately 3 miles of road and increase costs to BLM to implement the closures.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Although actions to recover sage-grouse populations would be somewhat different, potential impacts would be the same as discussed under the No Action Alternative.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be the same as discussed for the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Only allowing one access point closure to the playa and only one Class III or IV Special

Recreation Permit events to occur at a time would decrease the amount of temporary decreased public access, and playa access could be maintained for other recreators.

From Public Outreach and Visitor Service Management

Impacts would be similar to those discussed for the No Action Alternative because the levels of visitor use and the types of actions likely to occur would be expected to be similar.

4.2.2.2 Impacts on Cultural Resources

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Downgrading designated routes receiving vehicle use in excess of capacity to decrease vehicle use levels could decrease inadvertent damage or disturbance to cultural sites by decreasing public access.

Closing 751,879 acres and limiting 346,200 acres to OHV use would increase protection or site stability, decrease inadvertent damage to cultural resources, decrease opportunities for vandalism and looting, and improve or maintain the integrity of the setting of the emigrant trails and other important emigrant locations. However, there would be greater potential for impacts on the integrity of the Barbara Worth site on the playa.

From Cultural Resource Management

Managing cultural resources as to site types would improve site protection and increase opportunities for historic preservation awareness and site preservation.

Emphasizing site conservation would enhance the long-term protection of cultural resources; however, it would also limit opportunities for scientific study and public use of cultural resources.

From Native American Values Management

Protecting PCRI for the use and benefit of current and future generations may limit

opportunities for scientific study and public use of some related cultural resource sites.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Not allowing camping within the High Rock Canyon portion of the ACEC or rock climbing adjacent to the emigrant trail would reduce the possibility of inadvertent damage or disturbance to cultural resources and opportunities for vandalism and looting.

Closing portions of the High Rock Canyon ACEC in High Rock, Little High Rock, East Fork, Mahogany, Grassy, and Yellow Rock Canyons to visitor use from January 31 through May 15 each year would prevent damage to the emigrant trail by removing traffic during times when the area is likely to be muddy.

Increasing the existing Soldier Meadows ACEC to approximately 3,770 acres and applying additional protection measures, including day-use only designation and livestock and wild horse and burro restrictions, would provide better protection of important cultural resource values. As a result, integrity of cultural resources would be protected, inadvertent damage or disturbance to cultural sites would be reduced, and opportunities for vandalism and looting would be reduced. In the long-term, opportunities for scientific study and public use of cultural resources would be enhanced.

From Vegetation Management

Implementing vegetation manipulation projects to move plant communities toward desired conditions, improve structural and species diversity, and protect soil and water resources would also increase protection and site stability of cultural resources. Although some inadvertent damage or disturbance to cultural sites may occur during implementation, the integrity of cultural resources and the setting of the emigrant trails would be protected.

Restoration and maintenance of individual aspen stands may inadvertently damage or disturb

arborglyphs on some aspen trees. Overall these actions would preserve the integrity of cultural resources and the setting of the emigrant.

From Livestock Grazing Management

Excluding the Stanley Camp Pasture within the Soldier Meadows allotment from livestock grazing or trailing would decrease inadvertent damage to cultural resources. Overall the integrity of cultural resources would be maintained and the setting of the emigrant trails would be improved.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Using prescribed fire outside of Wilderness to accomplish localized small-scale projects could cause inadvertent damage or disturbance to cultural sites during implementation. Overall the integrity of cultural resources would be maintained and the setting of the emigrant trails would be improved.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

Designating the South Playa Area as VRM Class III and the remaining portions of the planning area (excluding Wilderness Areas and the WSA) as VRM Class II would maintain the integrity of cultural resources and improve or maintain the integrity of the setting of the emigrant trail. Indirectly, these designations would restrict activities that could damage cultural resources.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Withdrawing Federal lands within the South Playa Area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA, but within the planning area, from mineral development would prevent inadvertent damage or disturbance to cultural sites and increase site protection. Withdrawing these areas would also maintain the integrity of cultural resources and the setting of the emigrant trails.

From Recreation Management

If resource damage occurs from recreation activities, applying visitor restrictions, such as camping limits, and implementing a permit system or trail development, would stop, prevent, or alleviate inadvertent damage to cultural resources. As a result of these measures to increase resource protection, integrity of cultural resources and the setting of the emigrant trails would be maintained in the long term.

Applying camping restrictions, such as group size limits in the Wilderness zone; allowing designated and dispersed camping with some limits and monitoring in the Rustic zone; and closing dune and hummock areas on the playa to camping would also protect cultural resources from inadvertent damage and looting, maintain the integrity of cultural resources and their setting, and improve opportunities for cultural appreciation and discovery in the long term. Designating portions of the High Rock Canyon ACEC outside of Wilderness, Soldier Meadows ACEC, Class A and B historic trail segments, and rustic portions of the Lahontan Cutthroat Trout Area as day-use only would provide further protection and preservation of the cultural resources located in these areas.

From Public Outreach and Visitor Services Management

Although public outreach and visitor services are different under this alternative, impacts would be similar to those described for the No Action Alternative.

4.2.2.3 Impacts on Native American Values

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs within the planning area could preserve the opportunity to pursue traditional uses.

From Transportation and OHV Management

Although transportation and OHV management actions vary under this alternative, impacts would be similar to those described for the No Action Alternative, except less habitat loss would occur, as 274 miles of routes would be closed to OHV use. This would result in less reduction of availability of hunting and fishing for Tribal sustenance than in the No Action Alternative.

From Cultural Resource Management

Site conservation emphasis would benefit Native American values and any potential PCRI.

From Native American Values Management

Managing PCRI under the Traditional Use Category and allowing only uses that are consistent with the resource objectives in that area and that do not interfere with sustainability of that resource would help maintain the integrity of the PCRI and preserve the opportunity to pursue traditional uses. This would also increase opportunities for preservation awareness and site preservation.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Not allowing camping within the High Rock Canyon portion of the ACEC and applying additional protection measures in the Soldier Meadows ACEC, including day-use only designation and livestock and wild horse and burro restrictions, would reduce conflicts between users and preserve the opportunity to pursue traditional

uses. As a result, opportunities for preservation awareness and PCRI preservation would be improved.

From Vegetation Management

Implementing vegetation manipulation projects to move plant communities toward desired conditions, improve structural and species diversity, and protect soil and water resources would also improve or preserve the opportunity to pursue traditional uses involving native vegetation.

From Livestock Grazing Management

Excluding the Stanley Camp Pasture within the Soldier Meadows allotment from livestock grazing or trailing would decrease inadvertent damage or disturbance to any potential PCRI in the area. Overall, the integrity of PCRI and opportunities to pursue traditional uses would be preserved.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Using prescribed fire outside of Wilderness to accomplish localized small-scale projects could cause inadvertent damage or disturbance to PCRI during implementation. However, overall the integrity of PCRI and opportunities to pursue traditional uses would be maintained or improved.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

Designating the South Playa as VRM Class III and the remaining portions of the planning area (excluding Wilderness Areas and the WSA) as VRM Class II would maintain integrity of PCRI and opportunities to pursue traditional uses would be maintained or improved. Indirectly, these designations would restrict activities that could damage PCRI or traditionally used resources.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Withdrawing Federal lands within the South Playa Area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA, but within the planning area, from mineral development would prevent inadvertent damage or disturbance to PCRI. Withdrawing these areas would also maintain the integrity of the setting of important Native American locations.

From Recreation Management

If resource damage occurs from recreation activities, applying visitor restrictions, such as camping limits, and implementing a permit system or trail development, would prevent or alleviate inadvertent damage or disturbance to PCRI. As a result of these protections, the integrity of any potential PCRI would be maintained, and the setting and resource base would be improved.

Applying camping restrictions, such as group size limits in the Wilderness zone; allowing designated and dispersed camping with some limits and monitoring in the Rustic zone; and closing dune and hummock areas on the playa to camping would also protect PCRI from inadvertent damage, improving the integrity of PCRI settings, and increasing opportunities for preservation awareness and site preservation in the long term. Designating portions of the High Rock Canyon ACEC outside of Wilderness, Soldier Meadows ACEC, and rustic portions of the Lahontan Cutthroat Trout Area as day-use only would provide further protection and preservation of PCRI and traditionally used resources located in these areas.

From Public Outreach and Visitor Services Management

Although public outreach and visitor services are different under this alternative, impacts would be similar to those described for the No Action Alternative.

4.2.2.4 Impacts on Paleontological Resources

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Although transportation and OHV management actions vary under this alternative, impacts would be similar to those described for the No Action Alternative.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

Managing paleontological sites as to site types with an emphasis on conservation with some scientific use allowed would improve opportunities to identify priorities for site management and site preservation, and reduce conflicts and the risk of inadvertent damage to important sites. As a result, theft, breakage, and displacement of fossils and vandalism, alteration, and erosion of sites would be diminished, and scientific inquiry and public use and appreciation of paleontological resources could be enhanced.

Prohibiting collection of petrified wood and common invertebrate fossils, unless for scientific purposes with a permit, would preserve paleontological resources for future generations and reduce the risk of inadvertent damage to important sites. This would create a conflict with rock hounds who are used to collecting specified amounts of fossil wood and unrestricted collection of invertebrate fossils.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Maintaining the existing 24,006-acre High Rock ACEC would decrease the risk of inadvertent damage to important sites. It would also decrease theft, breakage, and displacement of fossils and vandalism, alteration, and erosion of sites. In the long term, scientific inquiry and public use and opportunities to identify priorities for site management and site preservation would be enhanced.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

Impacts would be similar to those described for the No Action Alternative.

From Fish and Wildlife Management

No impacts are anticipated.

From Visual Resource Management

No impacts are anticipated.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

Eliminating the two existing utility corridors, but not existing utilities, would decrease the risk of inadvertent damage to important sites, including theft, breakage, and displacement of fossils and vandalism, alteration, and erosion of sites.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Prohibiting collection of petrified wood and common invertebrate fossils, unless for scientific purposes with a permit, would preserve paleontological resources for future generations and reduce the risk of inadvertent damage to important sites. This has the potential of creating a conflict with rock hounds who are used to collecting specified amounts of fossil wood and unrestricted collection of invertebrate fossils.

From Public Outreach and Visitor Services Management

Although public outreach and visitor services are different under this alternative, impacts would be similar to those described for the No Action Alternative.

4.2.2.5 Impacts on Wilderness

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs in the planning area would maintain naturalness in Wilderness Areas.

From Transportation and OHV Management

Limiting access in the Lahontan Cutthroat Trout WSA to the Barlett Butte and Idaho Canyon roads would increase naturalness and opportunities for solitude and primitive recreation in the WSA.

From Cultural Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Wilderness Management

Providing signs specifying the wilderness boundaries at 0.5-mile intervals could decrease the amount of illegal mechanized trespass in the

wilderness areas, which would maintain or enhance naturalness and opportunities for solitude and primitive recreation.

Adding all 10 acquired wilderness inventory units to the WSA would increase naturalness throughout the WSA.

Limiting access in the Lahontan Cutthroat Trout WSA to the main Barlett Butte BLM system road #2052 and the Idaho Canyon Road #2070 would increase naturalness and opportunities for solitude and primitive recreation in the WSA and the North Black Rock Range Wilderness.

Closing the Lahontan Cutthroat Trout Area seasonally to motor vehicles during the spawning season of the Lahontan cutthroat trout from February to June would increase the opportunities for solitude and primitive recreation during the closure.

From Special Designation Management

Restricting rock climbing in the High Rock Canyon adjacent to the emigrant trail would diminish the potential for this type of primitive recreational activity. Because impacts associated with climbing (such as fixed gear, impacts to raptors) would not occur, the naturalness of the area would probably be maintained by not allowing climbing.

The 14-week public closure of portions of the High Rock ACEC would decrease opportunities for primitive recreation in approximately 15 percent of the Little High Rock Canyon, High Rock Canyon, and East Fork High Rock Canyon Wilderness Areas. Although the area impacted is a relatively small portion of the Wilderness Areas, it is the area where the majority of primitive recreation occurs. Very little if any primitive recreation use occurs during January and February, so the closure would have a negligible impact during those months. Primitive recreation use increases during March, April, and May (mainly in the form of hiking, backpacking, and equestrian use). Closure during those 3 months would impact wilderness users and hikers using the Desert Trail.

From Vegetation Management

Only applying vegetation treatments in Wilderness Areas for noxious weeds would enhance naturalness.

From Livestock Grazing Management

Not grazing 11,214 acres of land in the Stanley Camp Pasture and Mahogany Creek enclosure from grazing activities would maintain or increase the naturalness and solitude in about 75% of the WSA, and a small portion of the North Black Rock Range Wilderness. Impacts to naturalness associated with livestock grazing, such as trampling, would not occur on the portion of the WSA where grazing would not occur.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

The naturalness of areas that have been shaped by the absence of fire resulting from fire suppression would probably continue to decrease from the lack of prescribed fire. Impacts to solitude and primitive recreation associated with prescribed burning activities would not occur.

From Fish and Wildlife Management

Removing the existing wildlife water developments in Wilderness Areas, and not conducting predator control would maintain and enhance the wilderness values of the areas. Not allowing the construction of new wildlife water developments could maintain the naturalness of the areas but may also hinder the ability of management to correct human-caused impacts on native wildlife.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Withdrawing the Lahontan Cutthroat Trout Area and the wilderness vehicle access roads

outside the NCA from the locatable, leasable, and salable minerals would maintain the wilderness values in the areas by preventing future mineral development.

From Recreation Management

Applying camping restrictions to prevent resource damage and restricting camping to areas more than 200 feet from water, unless otherwise designated would maintain naturalness.

Implementing a permit system if needed to manage use would maintain or enhance naturalness and solitude by allowing BLM to contact users prior to their using the area and informing them of regulations.

Limiting collection of rocks, minerals, and fossils to scientific purposes only would maintain naturalness by reducing the amount of surface disturbance associated with those activities.

Implementing group size limits in the Wilderness zone would minimize the impact that large groups could have on the experience of other wilderness visitors, as well as the physical environment and naturalness of the areas.

From Public Outreach and Visitor Services Management

Visitors' sense of appreciation and understanding of area resources would be directly impacted by management actions for public outreach and visitor services. Fewer interpretive opportunities would be available under this alternative. The development of an outreach plan would have indirect beneficial impacts to the primitive character of the area by raising awareness of wilderness values.

4.2.2.6 Impacts on Special Designations

4.2.2.6.1 ACECs

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs would decrease the potential impact on the values for which the two ACEC were designated. For both ACECs, Rangeland Health

Standards would most likely apply to livestock grazing, wild horses, and recreation uses.

From Transportation and OHV Management

Impacts would be same as the No Action Alternative for the High Rock ACEC. OHV designations would be the same for the High Rock Canyon ACEC and maintenance levels, and the BLM roads within both ACECs would remain the same. OHV use within the Soldier Meadows ACEC would be limited to designated roads and routes and the closure of about 3 miles of vehicle route would lead to decreased disturbance of habitats of the special status species from motorized use.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Not allowing camping within the High Rock Canyon portion of the High Rock Canyon ACEC, designating camping sites in the remainder of the ACEC, prohibiting rock climbing adjacent to the emigrant trail, and closing portions of the ACEC in High Rock, Little High Rock, East Fork, Mahogany, Grassy, and Yellow Rock Canyons to public use from January 31 through May 15 would protect the primitive character of the High Rock area and associated emigrant trail segments and eliminate conflicts with camping in sites sensitive to resource and visual impacts.

Increasing the size of the Soldier Meadows ACEC, not allowing camping within the ACEC, rerouting the existing hot spring access road, and fencing habitats of special status species would decrease disturbance of habitat and minimize conflicts with camping for the desert dace, springsnails, and basalt cinquefoil.

From Vegetation Management

Establishing diversity, mosaics, and connectivity of upland communities, implementing vegetation manipulation projects, and restoring the frequency, distribution, and ecological function of stands of mountain shrubs would increase integrity and condition of important wildlife and plant habitat within both ACECs. Increasing vegetation diversity, cover, and structure could increase protection of the primitive character of the High Rock area and associated emigrant trail segments.

From Livestock Grazing Management

Permitting livestock grazing within the fenced portions of the Soldier Meadows ACEC when consistent with recovery of the special status species would promote recovery of the desert dace, springsnails, and basalt. If research shows prescription grazing is an applicable tool, desired disturbance of habitat for the desert dace and basalt cinquefoil would be increased.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Impacts would be similar to those described for the No Action Alternative.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

Designating portions of High Rock Canyon ACEC outside of Wilderness, Soldier Meadows ACEC, and Class A and B historic trail segments as day-use only would decrease disturbance of important habitat for the desert dace, springsnails, and basalt cinquefoil. Day-use only designation would protect the primitive character of the High Rock area and associated emigrant trail segments and eliminate problems with camping in sites sensitive to resource and visual impacts.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative.

4.2.2.6.2 Wild and Scenic Rivers

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs in the planning area would maintain the outstandingly remarkable values associated with the eligible streams.

From Transportation and OHV Management

Impacts would be similar to those described for the No Action Alternative; however, closure of 274 miles of routes would further protect the outstandingly remarkable values of the eligible streams by reducing riparian damage and sedimentation caused by vehicle use. Closing all of the routes in the Lahontan Cutthroat Trout Area except for the systems roads would enhance the values associated with Mahogany, Summer Camp, and Snow Creeks.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

The 10 acquired parcels (1,092 acres) in the Lahontan Cutthroat Trout WSA contain segments of Mahogany and Summer Camp Creeks; managing those parcels as WSAs would protect the values associated with those streams.

Seasonally closing the Lahontan Cutthroat Trout Area to motor vehicles would decrease the impacts that vehicle use has on the fish in Mahogany, Summer Camp, and Snow Creeks.

From Special Designation Management

Not allowing camping in the High Rock Canyon portion of the High Rock Canyon ACEC and the Soldier Meadows ACEC would reduce impacts (such as trampling of vegetation and vandalizing of historic sites) to the outstandingly remarkable values of High Rock, and Mahogany and Soldier Meadows Creeks. Closing the area would also reduce opportunities for recreation along the Desert Trail through High Rock Canyon and in the vicinity of Soldier Meadows Creek, which is also a value that qualified those streams for eligibility.

Rerouting the existing hot spring access road and closing spur roads would reduce the impacts from vehicles on the vegetation and fisheries values associated with Soldier Meadows Creek.

Minimizing human impacts to springs and streams within the Soldier Meadows ACEC would maintain the values associated with Soldier Meadows Creek.

Fencing and restricting grazing in the Soldier Meadows ACEC could reduce impacts from livestock and wild horses on the vegetation and fisheries values associated with Soldier Meadows Creek.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative.

From Livestock Grazing Management

Restricting grazing in the Stanley Camp pasture and allowing grazing in the Soldier Meadows ACEC only when it is consistent with recovery of the threatened and endangered species, would maintain or enhance the values associated

with Mahogany, Summer Camp, Snow, and Soldier Meadows Creeks.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Restricting camping to 200 feet away from any water source would reduce impacts associated with camping in riparian areas and would maintain the outstandingly remarkable values.

Designating portions of High Rock Canyon ACEC outside of Wilderness, Soldier Meadows ACEC, Class A and B historic trail segments, and rustic portions of the Lahontan Cutthroat Trout Area as day-use only would decrease disturbance of stream segments and reduce impacts to riparian areas from camping.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative.

4.2.2.7 Impacts on Vegetation

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs, including recreation, transportation, and livestock grazing, could potentially improve species composition, productivity, and structure of upland and riparian plant communities, eliminate noxious weeds, and reduce soil compaction and vegetation damage from vehicles.

From Transportation and OHV Management

Impacts from implementation of actions associated with the transportation system would be the same as the No Action Alternative. However, closure of 274 miles of vehicle routes and restriction of OHV on 346,191 acres to specific existing vehicle routes would decrease visitor access, which would improve species composition, productivity, structure of upland and riparian plant communities, lead to the elimination of noxious weeds, and reduce or maintain soil compaction and vegetation damage from vehicles.

From Cultural Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Closing the Lahontan Cutthroat Trout Area seasonally to motor vehicles from February to June and year-round closure of about 16 miles of vehicle routes could potentially improve species composition, productivity, and structure of riparian plant communities near streams in the Lahontan Cutthroat Trout Area on 12,378 acres by limiting vehicle to the BLM system roads during the wet season. The closure during the wet season would also reduce soil compaction and vegetation damage

from vehicles, near streams in the Lahontan Cutthroat Trout Area by limiting vehicle use.

From Special Designation Management

Not allowing camping within the High Rock Canyon portion of the ACEC would reduce soil compaction and vegetation damage from vehicles, on less than 20 acres in High Rock Canyon.

The 14-week public closure of a portion of the High Rock Canyon ACEC in High Rock, Little High Rock, East Fork, Mahogany, Grassy, and Yellow Rock Canyons each year would reduce soil compaction and vegetation damage from vehicles during the wettest part of the year on 17 miles of the High Rock Canyon road.

Not allowing camping within the Soldier Meadows ACEC and rerouting the existing hot spring access road and closing all spur roads would improve species composition, productivity, structure of upland and riparian plant communities; eliminate noxious weeds; and reduce soil compaction and vegetation damage from vehicles.

Fencing the Soldier Meadows ACEC would improve species composition, productivity, and structure of upland and riparian plant communities in these areas by allowing improved opportunities to decrease activities that degrade vegetation.

From Vegetation Management

Maintaining or establishing diversity, mosaics, and connectivity of upland communities and implementing vegetation manipulation projects to move plant communities toward desired conditions would potentially improve species composition, productivity, and structure of upland and riparian plant communities. Indirectly, managing for healthy native plant communities could lead to the decreases in areas occupied by noxious weeds and reduced vegetation damage where vehicle restrictions are implemented.

In addition to improving species composition, productivity, and structure of upland and riparian plant communities, emphasizing retention of sagebrush and other woody vegetation cover and reseeding would also reduce the likelihood that burned areas would become dominated by invasive annual species.

Not applying vegetation treatments in Wilderness Areas, except for the treatment of noxious weeds, would maintain species

composition, productivity, structure of upland and riparian plant communities even where species composition does not meet desired conditions. However, lack of vegetation treatments could potentially increase the likelihood that burned areas would become dominated by invasive annual species because of restrictions on potential management actions that could decrease wildland fire size and intensity.

From Livestock Grazing Management

Impacts would be similar to those described for the No Action Alternative. Additionally, fencing the Soldier Meadows ACEC with limited livestock grazing would improve species composition, productivity, and structure of upland and riparian plant communities in these areas.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Designating 1,214,514 acres of lands as Category B (potential opportunities for using wildland fire to meet resource objectives) and 7,892 acres of lands as Category A (full suppression) would maintain species composition, productivity, and structure of upland and riparian plant communities by increasing the level of fire protection on almost all lands within the planning area.

Using prescribed fire outside of Wilderness on a site-specific basis to accomplish localized small-scale projects consistent with the vegetation objectives could potentially improve species composition, productivity, and structure of upland and riparian plant communities on fewer acres than No Action because implementation of mechanical treatments are less likely than prescribed burning.

Not using prescribed fire in Wilderness Areas would maintain species composition, productivity, and structure of upland and riparian plant communities even where species composition does not meet desired conditions.

From Fish and Wildlife Management

Requirements to meet needs for sage grouse and other sagebrush dependent species could

potentially improve species composition, productivity, and structure of sagebrush plant communities.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Although the various camping restrictions and group size limits proposed under this alternative are potentially much more restrictive, the impacts to vegetation (e.g., increases in cover, composition and structure, decreased weed invasion) would apply to only a few hundred widely scattered acres, even if applied widely.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative.

4.2.2.8 Impacts on Livestock Grazing

From Land Health Standards

Expanding Rangeland Health Standards from livestock grazing to all uses and programs would have similar impacts to the No Action Alternative.

From Transportation and OHV Management

In addition to the impacts discussed in the No Action Alternative, designation of transportation routes and OHV classifications would cause

decreased access to rangelands by vehicles and increased travel times because of closure of 274 miles of vehicle routes.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

Fencing the Soldier Meadows ACEC to provide a more manageable unit for livestock, wild horses, and recreation uses and permitting grazing by livestock within the fenced portions of the Soldier Meadows ACEC potentially would have several impacts.

Grazing operator flexibility could increase as related to livestock grazing practices including intensity, duration, frequency, timing, and areas of grazing use in the Warm Springs pasture because the areas with rare species are separated from the larger pasture.

Grazing operator flexibility would potentially decrease on several thousand acres in the new pasture because of additional limitations on the ability to graze the area.

Taking these actions could also increase the potential for vandalism to livestock-related projects, increase or maintain rates of livestock loss, and increase the operational expenses of livestock operators by increasing the amount of fence that would require maintenance and the number of gates that may be left open by recreational users of the ACEC.

From Vegetation Management

Maintaining or establishing diversity, mosaics, and connectivity of upland communities and implementing vegetation manipulation projects to move plant communities toward desired conditions could decrease operator flexibility related to

livestock grazing practices including intensity, duration, frequency, timing, and areas of grazing use.

In addition to improving species composition, productivity, and structure of upland and riparian plant communities, emphasizing retention of sagebrush and other woody vegetation cover and reseeding could decrease operator flexibility related to livestock grazing practices.

From Livestock Grazing Management

In addition to impacts discussed under the No Action Alternative, permitting grazing by livestock within the fenced portions of the Soldier Meadows ACEC when consistent with the recovery of the rare and listed species within the ACEC would have the potential to increase operator flexibility on several thousand acres.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

Not allowing predator control in wilderness areas would potentially increase livestock losses in and adjacent to Wilderness.

Management of sage-grouse habitats to aid in the recovery of the species would potentially decrease operator flexibility related to livestock grazing practices including intensity, duration, frequency, timing, and areas of grazing use.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

Current conditions would be maintained.

4.2.2.9 Impacts on Wild Horses and Burros

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs, including wild horses and burros, could result in a decrease of appropriate management levels and potentially limit the use of certain herd management areas if wild horses or burros are found to be a major reason that one or more of the standards is not being met.

From Transportation and OHV Management

In addition to the impacts in the No Action Alternative, closing 274 miles of vehicle route to OHV use could decrease human contact with wild horses and burros, resulting in decreased animal harassment and potential theft of wild horses and burros.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

Fencing the Soldier Meadows ACEC and excluding wild horses and burros from browsing in this area would decrease portions of the range outside the existing herd management area currently used by wild horses.

From Vegetation Management

In addition to the impacts in the No Action Alternative, maintaining or establishing diversity, mosaics, and connectivity of upland communities and implementing vegetation manipulation projects to move plant communities toward desired conditions would potentially limit the use of certain herd management areas if wild horses or burros were preventing the achievement of desired vegetation conditions.

From Livestock Grazing Management

Impacts would be the same as the No Action Alternative.

From Wild Horse and Burro Management

Impacts would be the same as the No Action Alternative.

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

Impacts would be the same as the No Action Alternative.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be the same as the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

Current conditions would be maintained.

4.2.2.10 Impacts on Fire Management

From Land Health Standards

Rangeland Health Standards apply to all uses and programs including fire management. Potential impacts from application of the standards include potential changes to the fuel loads, size of fires, and suppression costs where additional requirements to manage fire are implemented to meet one or more standards.

From Transportation and OHV Management

Upgrading BLM road functional classification or maintenance level change based on monitoring would improve effective fire protection by improving access for fire suppression resources.

Downgrading the quality of designated routes receiving vehicle use in excess of capacity would have the potential of decreasing access for fire suppression resources on small areas.

Closure of 274 miles of OHV routes could reduce effective fire protection by decreasing access for fire suppression resources. This would also potentially increase fire suppression costs including the need for aerial fire suppression to replace ground suppression. However, the closures would likely decrease the potential for human-caused fires because public access would be decreased.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Prohibiting prescribed fires in Wilderness Areas would increase the fuel loads and possibly increase the size of fires by not treating fuels in the Wilderness. Additionally, suppression costs could increase for wilderness fires.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative. In addition, actions to improve vegetation condition, diversity, and cover would potentially change fuel loads, the size of fires, and suppression costs.

From Livestock Grazing Management

Impacts would be similar to those described for the No Action Alternative.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

Designating the planning area into one of two management categories with a corresponding appropriate management response where fire would not be desired or where a variety of appropriate fire suppression techniques would be applied would potentially improve fire protection by the most sensitive areas by allowing fire managers to assign the best mix of fire suppression techniques and equipment.

Using minimum impact suppression techniques throughout the area and limiting use of heavy surface-disturbing equipment would decrease the flexibility of fire managers to respond to wildland fire situations. This could also lead to increased fire suppression costs.

Use of prescribed fire outside Wilderness Areas to accomplish localized small-scale projects consistent with the vegetation objectives would reduce the fuel loads, reduce the size of fires, and slightly decrease suppression costs on several thousand acres. Fire protection effectiveness may also improve by breaking fuel continuity associated with treated acres.

Prohibiting prescribed fires in Wilderness Areas would increase the fuel loads and possibly increase the size of fires by not treating fuels in the Wilderness. In addition, suppression costs could increase for wilderness fires.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative.

4.2.2.11 Impacts on Fish and Wildlife

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs, including transportation and recreation, would potentially decrease erosion and sedimentation of aquatic habitat and decrease the

chance of wildlife being disturbed or harassed. Future actions modified to meet Rangeland Health Standards would lead to better habitat conditions and enhanced species viability. Application of standards to recreation and transportation could decrease inadvertent disturbance and increase wildlife populations in the immediate area or projects or other activities.

From Transportation and OHV Management

Changing the functional or maintenance class of a road or vehicle route if vehicle use causes damage to resources would most likely result in upgrades in functional or maintenance levels, which could decrease erosion and sedimentation of aquatic habitat by improving drainage, installation of culverts, hardened crossings, gravelling surfaces and maintaining or protecting and enhancing habitats by reducing braiding, improving drainage. This action would potentially affect only a few hundred acres in the planning area.

Closing 274 miles of routes to OHV use would potentially decrease erosion and sedimentation of aquatic habitat, decrease the chance of wildlife mortality, protect and enhance habitat, and decrease inadvertent disturbance.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Restricting access to the Bartlett Butte and Pole Creek West BLM system roads would decrease erosion and sedimentation of aquatic habitat, protect and enhance habitat, decrease inadvertent disturbance, and increase human-sensitive wildlife populations adjacent to 16 miles of the closed route in the Lahontan Cutthroat Trout Area.

Closing the Lahontan Cutthroat Trout Area to motor vehicles during the trout spawning season would decrease erosion and sedimentation of the aquatic habitat by eliminating vehicle use during

the period of year most likely to have increased sedimentation caused by vehicle use on wet roads. Reducing human use during half the year would decrease the chance of wildlife being disturbed or harassed, protect and enhance the habitat of the Lahontan Cutthroat Trout Area, and decrease inadvertent disturbance of wildlife by visitors during breeding seasons for most species.

From Special Designation Management

Closing portions of the ACEC in High Rock, Little High Rock, East Fork, Mahogany, Grassy, and Yellow Rock Canyons to visitor use for 12 weeks each year would reduce human disturbance of wildlife, including big horn sheep lambing and raptor nesting. Closing the area during the spring would decrease erosion and sedimentation of aquatic habitat. Extending the closure by 6 weeks during periods of raptor nesting and bighorn lambing would decrease the chance of wildlife being disturbed or harassed, enhance species viability, protect and enhance habitat, and potentially increase wildlife populations by limiting human uses during period of raptor nesting and the entire bighorn lambing period.

Increasing the Soldier Meadows ACEC to approximately 3,770 acres would protect wildlife species and their habitats. Reducing bank disturbance from livestock and wild horses would decrease erosion and sedimentation of aquatic habitat by closing or relocating roads adjacent to hot water channels. Elimination of camping would potentially decrease the chance of wildlife being disturbed or harassed. Reducing human-related disturbance near aquatic systems would potentially enhance species viability and protect and enhance habitat. As a result, restricting human uses may increase wildlife populations in the immediate area.

From Vegetation Management

Maintaining cover on upland watersheds and restoration of the monoculture stand of sagebrush would potentially decrease erosion and sedimentation of aquatic habitat.

Retaining mature sagebrush cover on sage-grouse habitats would protect and enhance habitats and species viability of sage-grouse, other sagebrush dependent species, and non-game species dependent on mountain shrub and aspen stands.

Not applying vegetation treatments in Wilderness Areas, except for the treatment of noxious weeds, would maintain habitat conditions on areas where wildlife species would benefit from changes in vegetation composition, structure and production.

From Livestock Grazing Management

In addition to the impacts in the No Action Alternative, excluding livestock grazing or trailing from the Stanley Camp Pasture and limiting grazing within fenced portions of the Soldier Meadows ACEC would maintain or enhance wildlife habitat and species viability, which could lead to increased wildlife populations. Limiting grazing near riparian areas would protect aquatic wildlife and sensitive riparian habitat.

From Wild Horse and Burro Management

In addition to the impacts in the No Action Alternative, excluding wild horses and burros from fenced portions of the Soldier Meadows ACEC would maintain or enhance wildlife habitat and species viability, which could lead to increased wildlife populations. Excluding wild horses near riparian areas would protect aquatic wildlife and sensitive riparian habitat.

From Fire Management

Because fire management is acting in a support role to meet the needs of the resources, the categorization of the planning area into two fire management zones would have no impact on wildlife.

Using prescribed fire outside of Wilderness to accomplish localized small-scale projects would improve habitat conditions on a few thousand acres where wildlife species would benefit from changes in vegetation composition, structure, and production.

Not using prescribed fire in Wilderness Areas would maintain habitat conditions on areas where wildlife species would benefit from changes in vegetation composition, structure, and production.

From Fish and Wildlife Management

Not maintaining existing wildlife water developments or constructing new water developments in Wilderness Areas and removing

developments as they become nonfunctional would increase competition for water among small mammal and bird species, and reduce wildlife populations in the immediate area of removed projects, which could result in some mortality among non-mobile small mammals. This would affect mobile species on about 25,000 acres and non-mobile species on about 2,000 acres.

Not allowing animal damage control in wilderness would potentially decrease the chance of predators being disturbed or harassed and reduce species viability of populations being affected by predation above normal rates. Predator populations in the area would potentially increase; populations of prey species would potentially decrease.

Managing sage-grouse habitats for recovery of sage-grouse populations protect and enhance habitats and species viability of sage-grouse, other sagebrush dependent species, and non-game species dependent on mountain shrub and aspen stands.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Restricting camping to more than 200 feet from water would decrease erosion and sedimentation of aquatic habitat on a few acres. Applying camping restrictions, including designated camping sites, would decrease the chance of wildlife being disturbed or harassed on a few hundred acres adjacent to areas of camping restrictions.

If trails or camping areas were restricted, habitat would be protected or enhanced and wildlife populations may be increased on a few acres.

Designating portions of High Rock Canyon ACEC outside of Wilderness, Soldier Meadows

ACEC, Class A and B historic trail segments, and rustic portions of the Lahontan Cutthroat Trout Area as day-use only would decrease erosion and sedimentation of aquatic habitats. It would potentially protect and enhance 30 miles of stream habitat by reducing human uses, and decrease the chance of wildlife being disturbed or harassed.

Requiring large groups to camp in BLM-designated group camp areas and limiting camping in designated sites to 10 days would potentially decrease erosion and sedimentation of a few acres of aquatic habitat by limiting large camps within aquatic areas. The chance of wildlife being disturbed or harassed may also be reduced by limiting large groups to areas less sensitive to human disturbance.

From Public Outreach and Visitor Services Management

Maintaining a roadside trailer-based Visitor Contact Station at peak use times and providing interpretive information at off-site locations would potentially decrease the chance of wildlife being disturbed or harassed and protect and enhance habitat by increased visitor appreciation of the wildlife.

4.2.2.12 Impacts on Special Status Species

4.2.2.12.1 Plants

There would be no impact to special status plant species except basalt cinquefoil as discussed for the No Action Alternative.

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs could potentially improve basalt cinquefoil habitat and increase populations by reducing disturbance from other activities. Indirectly, applying restrictions to other activities, including recreation and transportation, could increase visitor awareness and appreciation of planning area resources, thereby decreasing inadvertent disturbance.

From Transportation and OHV Management

Relocating routes within the Soldier Meadows ACEC that currently cross less than an acre of basalt cinquefoil habitat would decrease disturbance of habitat and individuals in those areas and enhance habitat and species viability.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

No impacts are anticipated.

From Special Designation Management

Increasing the Soldier Meadows ACEC to approximately 3,770 acres and designating it as day-use only would decrease disturbance of habitat and individuals, which would improve basalt cinquefoil habitat and species viability.

Rerouting the existing hot spring access road away from the habitat and closing all spur roads would decrease disturbance of habitat and individuals on less than one acre of basalt cinquefoil habitat, thereby improving habitat and species viability.

Managing springs and streams to minimize human use impacts on desert dace would also improve basalt cinquefoil habitat and species viability, because they thrive near riparian areas.

Fencing the Soldier Meadows ACEC to exclude wild horses and limit livestock grazing would limit hoof action to levels that would meet the disturbance requirements of basalt cinquefoil, improving habitat and species viability.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

Limiting livestock grazing within the fenced portions of the Soldier Meadows ACEC could

decrease disturbance of important habitat for basalt cinquefoil because of maintenance of a relatively natural disturbance regime when compared to current levels of grazing.

If research shows grazing is an applicable tool, disturbance of important habitat for basalt cinquefoil may be increased to meet the needs of the species.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

No impacts are anticipated.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

Impacts would be similar to those described for the No Action Alternative.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative.

4.2.2.12.2 Fish and Wildlife

There are no known impacts to black tern, least bittern, and white-faced ibis because of the lack of wetlands and actions affecting those areas.

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs could potentially improve special status species habitat and increase populations by reducing disturbance from other activities. Indirectly, applying restrictions to other activities, including recreation and transportation, could increase visitor awareness and appreciation of planning area resources, thereby decreasing inadvertent disturbance.

From Transportation and OHV Management

Designating 346,191 acres for OHV use on designated roads and vehicle routes would close 274 miles of routes, which would potentially decrease disturbance of habitat.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Restricting access to the Bartlett Butte and Pole Corral West roads, and closing the Lahontan cutthroat trout Area during the spawning season (February-June) would decrease the potential for disturbance of trout habitat and reduce run-off from roads.

From Special Designation Management

Designating the High Rock Canyon portion of the ACEC as day-use only and closing portions of the High Rock Canyon ACEC in High Rock, Little High Rock, East Fork, Mahogany, Grassy, and Yellow Rock Canyons from January 31 through May 15 each year would reduce human disturbance during big horn sheep lambing and potentially increase populations.

Increasing the Soldier Meadows ACEC to approximately 3,770 acres, designating the area as day-use only, rerouting the existing hot spring access road, minimizing human impacts on desert dace, and limiting livestock grazing and eliminating

wild horse use would improve desert dace and springsnail habitat and potentially increase desert dace and springsnail populations.

From Vegetation Management

Retaining mature sagebrush cover would maintain sage-grouse habitats in the short term and improve those habitats in the long term.

From Livestock Grazing Management

Limiting livestock grazing within the fenced portions of the Soldier Meadows ACEC could decrease disturbance of important habitat for the desert dace and springsnails by maintaining a relatively natural disturbance regime when compared to current levels of grazing.

If research shows prescription grazing is an applicable tool, disturbance of important habitat for the desert dace may increase.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Incorporation of Minimum Impact Suppression Techniques (MIST) and assignment of resource advisors during appropriate management response would preserve and protect special status species.

From Fish and Wildlife Management

Managing sage-grouse habitats for recovery of sage-grouse populations would decrease disturbance of sage-grouse habitat and protect and improve habitat and populations.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

Applying visitor restrictions if visitation causes resource damage, such as camping restrictions, implementing a permit system, or constructing trails, and restricting camping to more than 200 feet from water could potentially decrease disturbance to special status species and their habitats. Applying group size limits in Wilderness and designating portions of High Rock Canyon ACEC outside of Wilderness, Soldier Meadows ACEC, Class A and B historic trail segments, and rustic portions of the Lahontan Cutthroat Trout Area as day-use only would reduce human disturbance in special status species habitats and potentially improve their populations.

From Public Outreach and Visitor Services Management

Limiting interpretive information to off-site means could potentially increase visitor appreciation and decrease inadvertent disturbance of special status species and their habitats if special status species information is included in interpretive information. However, because the outreach would be limited to off-site means, the ability to reach enough users to have an effect on planning area resources could be minimal.

4.2.2.13 Impacts on Visual Resources

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs would reduce damage from other uses and improve plant diversity and cover, indirectly enhancing visual quality.

From Transportation and OHV Management

Upgrading BLM road 37002—High Rock from a trail to a road with maintenance-level 2 could reduce the primitive, undeveloped character within the viewshed and potentially disrupt the historic setting of the emigrant trails.

Downgrading designated routes in functional or maintenance-class receiving-vehicle use in excess of capacity could improve the quality of viewsheds and setting of historic trails by enhancing the primitive, undeveloped feel of the area.

Closing 781,879 acres and limiting 346,200 acres to OHV use would enhance visual resources by reducing soil disturbance, increasing vegetative ground cover, and reducing dust.

Maintaining existing directional signs and adding new signs to prevent resource damage or visitor confusion could increase the number of road signs and lead to minimal reductions in visual quality and in the area's primitive, undeveloped character, naturalness, and sense of isolation.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Impacts would be similar to those described for the No Action Alternative, but the visual impact along the wilderness boundaries may be greater due to the increased signage.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Maintaining cover on upland watersheds and retaining mature sagebrush cover on sage-grouse habitats would improve plant diversity and cover, indirectly enhancing visual quality.

From Livestock Grazing Management

Impacts would be similar to those described for the No Action Alternative.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Using prescribed fire outside of Wilderness on a site-specific basis to accomplish localized small-scale projects would decrease visibility in the short-term during implementation; however, in the long-term improved vegetation structure and species diversity would enhance the viewshed.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Designating the South Playa as VRM Class III and the remaining portions of the planning area (outside Wilderness Areas and the WSA) as VRM Class II could restrict visually obtrusive development from occurring within a majority of the planning area and retain the primitive and undeveloped setting.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

Eliminating two existing utility corridors, but not existing utilities, would protect visual quality from impacts that could have been caused by concentrating utility use in these corridors.

From Minerals and Energy Management

Withdrawing federal lands within the South Playa Area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA, but within the planning area subject to valid existing rights would protect visual resources from impacts that could have been caused by surface disturbance and infrastructure development associated with mining in these areas.

From Recreation Management

Applying visitor restrictions if resource damage occurs and designating sensitive areas, including portions of the ACECs, historic trail segments, and portions of the Lahontan Cutthroat Trout Area as day-use only would alleviate surface disturbance and damage to vegetation where restrictions are applied, potentially improving viewsheds within these areas.

Encouraging the development of privately operated campgrounds on public lands outside of the NCA and on private lands both inside and outside of the NCA boundary could diminish the quality of the viewshed in these areas depending on the level of development that takes place. However, potentially displacing camping impacts to lands outside the NCA may reduce the level of surface disturbance and vegetation damage within the planning area.

Class III and IV events would be authorized only in a designated area within the Playa and designating a rocket launch area to reduce disturbances to vegetation, soils, and riparian zones would protect visual resources.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative.

4.2.2.14 Impacts on Water Resources

From Land Health Standards

Applying Rangeland Health Standards to all uses and programs would decrease soil erosion and stream sedimentation, leading to increased hydrologic function.

From Transportation and OHV Management

Managing BLM system roads by functional classification and upgrading the classification of certain roads could aid in improving road conditions, thereby decreasing soil erosion and subsequent sedimentation of streams.

Designating routes as open, closed, or limited and monitoring for resource damage caused by vehicular traffic would reduce the potential for soil erosion and subsequent stream sedimentation, leading to increased hydrologic function.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Adding all 10 of the parcels within the Lahontan Cutthroat Trout WSA that were acquired and inventoried for wilderness characteristics to the WSA would decrease vehicular traffic and other uses in these areas, thereby reducing soil erosion and stream sedimentation.

Excluding the main Barlett Butte BLM system road #2052 and the Idaho Canyon Road #2070 from the Lahontan Cutthroat Trout WSA could increase vehicular traffic immediately outside the WSA, resulting in increased soil erosion and stream sedimentation.

Seasonal closure of the Lahontan Cutthroat Trout Area to vehicular use would reduce soil erosion and subsequent stream sedimentation, leading to increased hydrologic function.

From Special Designation Management

Closing portions of the ACEC in High Rock, Little High Rock, East Fork, Mahogany, Grassy, and Yellow Rock Canyons to public use from January 31 through May 15 would reduce erosion and sedimentation of streams, leading to increased hydrologic function.

Expanding the Soldier Meadows ACEC and limiting uses (e.g., access, camping, grazing) within this area would increase protections to water sources located within the ACEC and therefore would decrease soil erosion, stream sedimentation, and nutrient loading.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative; however, the management actions under this alternative would reduce soil erosion and stream sedimentation over a greater area than the No Action Alternative.

From Livestock Grazing Management

Impacts would be similar to those described for the No Action Alternative.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be the same as the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Withdrawing Federal lands from mineral development within the South Playa Area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA would reduce potential water contamination and could reduce soil erosion and stream sedimentation, leading to increased hydrologic function.

From Recreation Management

Restrictions on camping location, duration, and group size could enhance water quality and hydrologic function through decreased erosion and stream sedimentation.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative even though outreach actions vary under this alternative.

4.2.2.15 Impacts on Lands and Realty

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Current conditions would be maintained.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Eliminating the two existing utility corridors designations would affect a utility company's ability to plan for the location of future utilities.

Granting right-of-way only in the non-Wilderness portion of the planning area for access to private lands and in support of valid existing rights would have impacts similar to those described for the No Action Alternative.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

Current conditions would be maintained.

From Public Outreach and Visitor Services Management

No impacts are anticipated.

4.2.2.16 Impacts on Minerals and Energy

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Current conditions would be maintained.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

No impacts are anticipated.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Designating the South Playa as VRM Class III and the remaining portions of the planning area (excluding Wilderness Areas and the WSA) as VRM Class II would increase the costs of any potential development.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Granting right-of-way for utilities only in the non-Wilderness portion of the planning area for access to private lands and in support of valid existing rights would have impacts similar to those described for the No Action Alternative.

From Minerals and Energy Management

Subject to valid existing rights, withdrawal of Federal lands within the South Playa Area, the Lahontan Cutthroat Trout Area, and vehicle access routes outside the NCA but within the planning area would decrease opportunities for development.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

No impacts are anticipated.

4.2.2.17 Impacts on Air Quality

From Land Health Standards

Current conditions would be maintained.

From Transportation and OHV Management

Designated routes receiving vehicle use in excess of capacity could be downgraded in quality for the purpose of decreasing vehicle use levels. Vehicle use, including OHV use, would be managed by designating three use levels that cover the planning area. This would result in decreased fugitive dust through reduced vehicular traffic.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Current conditions would be maintained.

From Livestock Grazing Management

Current conditions would be maintained.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Outside of Wilderness, prescribed fire would be used on a site-specific basis to accomplish localized small-scale projects consistent with the vegetation objectives. Low surface disturbance mechanical treatments, consistent with vegetation objectives, would be the preferred treatment for fuel reduction. This would result in short-term localized increases in smoke and reduced visibility.

If there are no prescribed fire techniques used in Wilderness Areas, wildland fires could burn longer, resulting in increased levels of smoke and reduced visibility.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Implementing group size limits in the Wilderness Zone, day-use only limits in sensitive areas of the Rustic Zone, and requiring vehicle limits on groups camping in the Rustic and Front Country Zones would decrease the frequency of vehicles traveling for recreational purposes, and consequently the fugitive dust from those vehicles and dispersed recreation.

Limiting Class III and IV events to four weekends a year and restricting those events to limited areas within or near the Playa would decrease the intensity and frequency of fugitive dust from organized events within those sections of the planning area. However, may lead to an increase in short-term emissions as the number and size of events could increase over current conditions.

From Public Outreach and Visitor Services Management

No impacts are anticipated.

4.2.2.18 Impacts on Soils

From Land Health Standards

Implementing Rangeland Health Standards under all programs would decrease soil disturbance, compaction, and erosion from all activities.

From Transportation and OHV Management

Impacts would be similar to those described for the No Action Alternative. In addition, limiting vehicle access would reduce the likelihood of soil disturbance, compaction, and erosion and would improve soil conditions and productivity. Approximately 751,879 acres would be closed to vehicle use, 104,546 acres open to vehicle use, and 346,200 acres limited to designated routes.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Increased traffic on fewer roads would result in localized increases in soil disturbance, compaction, and erosion. However, the area overall would experience decreased impacts to soils. Seasonal closure of the Lahontan Cutthroat Trout Area would also result in decreased impacts to soils.

From Special Designation Management

Impacts would be similar to those described for the No Action Alternative.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative. Benefits to soil

productivity would occur over a larger geographic area and on a greater variety of soil types.

From Livestock Grazing Management

Impacts would be similar to those listed under the impacts from Land Health Standards.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Impacts would be similar to those described for the No Action Alternative.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

There would be short-term soil disturbance, compaction, and erosion due to the granting of utility rights-of-way in non-Wilderness areas. Potential long-term impacts to soils would occur from maintenance of utilities.

From Minerals and Energy Management

A loss of soil productivity would occur due to soil disturbance, compaction, and erosion in areas of valid existing rights.

From Recreation Management

Day use designations in areas containing sensitive resources would reduce the potential for soil disturbance, compaction, and erosion.

Restrictions on location, duration, and group size for camping and other activities would decrease soil disturbance, compaction, and erosion as compared with the No Action Alternative.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative.

4.2.2.19 Impacts on Recreation

From Land Health Standards

Current conditions would be maintained.

From Transportation and OHV Management

Managing BLM system roads to their functional and maintenance class would increase public access throughout the planning area, providing opportunities for a wider range of visitors. The potential for increased traffic along these routes could result in a decrease of natural quiet and solitude associated with primitive recreation.

Downgrading BLM road 2054 (High Rock Lake Road) would have the potential to increase natural quiet and solitude associated with primitive recreation along the travel corridor and adjacent lands. However, public access would be limited due to poor road condition, which would limit opportunities for recreation to a segment of visitors.

Designating maintenance classes in cases where resource impacts are occurring and based on all available options would enhance the ability to manage areas for their critical physical and social settings.

Downgrading designated routes experiencing vehicle use in excess of capacity for the purpose of decreasing vehicle use levels would help retain critical physical, social, and managerial settings of specified areas. These settings include natural quiet and solitude associated with primitive recreation and the perception of recreating in an area free from human development.

Public access through and across the planning area would be enhanced for the long term by acquiring public access easements or developing road alignments in areas where public roads cross private property. Recreation opportunities would also be expanded as a result of improved access. However, some areas that currently experience minimal use may experience increased visitation, resulting in the loss of solitude and natural quiet.

Designating 346,191 acres as limited to designated roads would restrict the freedom for cross-country travel and reduce conflicts between motorized and nonmotorized users. Within this area, 287 miles of routes would be designated as available for vehicle use. Since visitor-use data indicates that most multipassenger vehicles are operated on the playa and existing roads, the OHV limitations proposed in this alternative are not expected to impact this segment of users. The availability of an extensive road system should offset lost opportunities, but OHV users who enjoy cross-country travel would likely be displaced to areas outside of the planning area.

Adding signage in areas experiencing resource damage or where visitors consistently become lost would help increase safety for drivers. Although there would be a loss of self-discovery and exploration on the road system, there would be a long-term gain in resource protection, which would help to maintain or restore the primitive character of the area.

From Cultural Resource Management

Emphasizing site conservation would enhance the preservation of rare resources for discovery by future generations, but would provide fewer opportunities for interpretation and public use when compared to Alternative B.

From Native American Values Management

Managing PCRI under the Traditional Use Category would enhance the preservation of rare resources for enjoyment of future generations. There would, however, be potential conflict between recreation users and traditional users.

From Paleontological Resource Management

Prohibiting the collection of petrified wood and common invertebrate fossils except for scientific purposes with a permit would contribute to the protection of rare resources for discovery by future generations. However, collection opportunities would be diminished, decreasing visitor freedom, which would ultimately lead to increased displacement of users who enjoy rockhounding.

From Wilderness Management

Signing wilderness boundaries would help to increase visitor awareness of areas having important and sensitive values. A long-term increase in primitive character would be expected due to a reduction of motorized trespass and the creation of new ways in wilderness areas. These potential outcomes would enhance the perception of recreating in an area free from human development. A decrease in conflict between motorized and non-motorized users would also be expected.

The addition of all 10 acquired parcels within the Lahontan Cutthroat Trout WSA to the existing WSA and limiting vehicle access to Barlett Butte and Idaho Canyon roads would have long-term impacts to management and the visitor experience. Within the WSA boundaries, 1,092 acres would be managed as a WSA, which would enhance the ability to manage the existing WSA for wilderness characteristics and important values associated with primitive recreation. However, giving these areas WSA status and further restricting vehicle access would decrease opportunities associated with motorized travel, which would lead to a decreased range of visitors.

A seasonal closure of the Lahontan Cutthroat Trout Area to motorized travel during the spawning season (February to June) would have short-term, localized impacts on visitors. There would be a decrease in opportunities for motorized recreation, which would provide opportunities for a decreased range of visitors. Since a large portion of the closure period would take place during the off-season, these impacts would be minimal. There would, however, still be some visitor displacement to other areas within and outside of the planning area. A seasonal closure would also contribute to the protection of critical physical, social, and managerial settings through the enhanced ability to manage the WSA for Wilderness characteristics associated with primitive recreation.

From Special Designation Management

Not allowing camping in the High Rock Canyon portion of the ACEC or rock climbing adjacent to the emigrant trail, restricting camping in the Soldier Meadows ACEC, and limiting camping to designated sites in the remainder of the ACEC would yield direct and indirect benefits to the visitor experience. There would be decreased

opportunities for camping with a loss in visitors' freedom of choice in campsite location. This restriction would likely cause visitor displacement and may increase competition for desirable campsites, but would decrease competition for day-use recreation opportunities at attraction areas. Through improved protection of wildlife populations, there would be a long-term increase in wildlife viewing and hunting opportunities. The proposed restrictions would also increase protection of rare resources for enjoyment by future generations.

Closing portions of the High Rock ACEC in High Rock, Little High Rock, East Fork High Rock, Mahogany and Grassy Canyons from January 31 through May 15 would restrict recreational activities in desirable and traditionally used areas. There would be a high potential for visitor displacement to other areas inside and outside of the planning area, primarily during the spring season. The improved protection of wildlife populations would increase opportunities for wildlife viewing and hunting during other times of the year.

Rerouting the Soldier Meadows hot spring access road would decrease vehicle access to the area, thereby limiting the range of recreation opportunities for motorized users. This would increase the potential for visitor displacement to other areas inside and outside of the planning area. However, opportunities for natural quiet and solitude would be enhanced; and conflict among different user types would be minimized. Impacts from vehicle travel or vehicle camping would also be minimized, which would enhance the perception of recreating in an undisturbed area.

Managing springs and streams to minimize human use impacts on desert dace would restrict certain recreational activities in desirable and traditionally used areas of riparian and spring complexes, and may increase competition for desirable sites. Long-term protection would contribute to the preservation of rare resources for enjoyment by visitors.

Fencing the Soldier Meadows ACEC would increase visitors' awareness of important and sensitive values contributing to the preservation of rare resources for enjoyment by future generations. However, the proposed action would diminish the perception of recreating in an area free from human development.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative.

From Livestock Grazing Management

Current conditions would be maintained.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Allowing water developments to deteriorate and be removed, and restricting the development of new wildlife water developments would have the potential to enhance critical physical and managerial settings of specified areas. Eliminating motorized activities associated with these developments would increase natural quiet and solitude associated with primitive recreation. The proposed actions would also enhance the perception of recreating in an area free from human development. However, the reduced ability to manage wildlife populations would have the potential to decrease wildlife viewing and hunting opportunities throughout the planning area.

From Visual Resource Management

Designating the South Playa as VRM Class III and the remaining areas outside of wilderness as VRM Class II would enhance the perception of recreating in an area free from human development. Certain critical settings of specified areas would be protected from impacts caused by development.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

In addition to the impacts discussed under the No Action Alternative, administering geothermal leases in the South Playa could result in construction related to the extraction of resources, which could also reduce public access to portions of the planning area.

From Recreation Management

Restricting camping within 200 feet of water would have direct and long-term potential to diminish visitors' freedom of choice in campsite location, and would enhance the preservation of rare resources for use by future generations. Eliminating camping in spring and riparian areas would minimize camping related impacts, and would enhance or restore the undisturbed character of localized areas. There would likely be a reduction in competition for use of springs for other recreational activities. However, with an overall loss of overnight recreation sites there would likely be an increase in competition for desirable campsites.

Restricting further development of facilities and removing existing structures would enhance the perception of recreating in an area free from human development. The proposed action would deter future on-site interpretive development, which would indirectly decrease the visitor's sense of appreciation and understanding of area resources. The potential to increase awareness of important and sensitive values would be diminished, which could lead to increased inadvertent damage to resources and the primitive character of the area. Recreation opportunities associated with developed facilities would be lost. However, the absence of physical development would enhance self-discovery and exploration, and would contribute to the perception of recreating in an area free from human development.

Implementing a permit system in areas where resources or the visitor experience is being impacted would decrease visitor conflict and competition for favorite/desirable sites as a result of increased use, and would contribute to increased natural quiet and solitude associated with primitive recreation. However, the proposed action would lead to a decrease in spontaneity and unconfined recreation. There would also be an increased potential for

visitor displacement to other areas inside and outside of the planning area.

Encouraging the development of privately operated campgrounds would have the potential to increase natural quiet and solitude associated with primitive recreation by distributing use away from attraction areas on public lands. The proposed action would also increase the availability of recreational opportunities, thereby providing for an increased range of visitors.

Prohibiting the collection of rock, minerals, and invertebrate fossils would contribute to the protection of rare resources for discovery by future generations. However, collection opportunities would be diminished, decreasing visitors' freedom, which would ultimately lead to increased displacement of users who enjoy rockhounding.

The ability to construct, relocate, or close trails to mitigate human-caused impacts would have direct and indirect impacts on the visitor experience. There would be the potential to decrease natural quiet and solitude associated with primitive recreation by encouraging use on developed trails, and the perception of recreating in an area free from human development would be diminished. However, the increased trail opportunities would provide for an increased range of visitors. Opportunities for discovery and exploration would also be increased, and increased resource protection would enhance the perception of recreating in an area free from human-caused impacts.

Group sizes in wilderness would be limited to 15 humans and stock combined (e.g., 10 humans and 5 stock, or 7 and 8), and groups traveling with more than three and five vehicles would be limited to group sites in Rustic and Front Country Zones respectively. Limiting visitor numbers would enhance the ability to manage for critical social and physical settings of specified areas, and would increase natural quiet and solitude associated with primitive recreation. The proposed actions would limit visitors' freedom of choice, and would likely result in visitor displacement to other areas or zones. There would, however, be a decrease in visitor conflict and competition for favorite/desirable sites that would be anticipated in conjunction with increased use in the planning area.

Prohibiting camping within ½ mile of designated campsites would restrict visitors' freedom of choice in camping location and may

increase competition for desirable sites. However, widespread camping-related impacts stemming from campsite proliferation would be minimized. Reduced impacts would improve naturalness in heavily used areas, contributing to the protection or restoration of the primitive character.

Prohibiting camping in portions of High Rock Canyon ACEC outside of Wilderness, Soldier Meadows ACEC, Class A and B historic trail segments, and rustic portions of the Lahontan Cutthroat Trout Area would restrict certain recreational activities in desirable and traditionally used areas. Visitors' freedom of choice would be restricted, with an increased potential for visitor displacement. The increased protection of rare resources and sensitive wildlife species would enhance opportunities for enjoyment by future generations. Reduced camping related impacts would contribute to the perception of recreating in an area free from human disturbance. The overall loss of campsite locations would likely cause increased competition for campsites in light of increased visitation. However, competition for day-use of attraction areas would be decreased.

Camping would be limited to 10 days and 5 days in Rustic and Front Country Zones respectively. Limiting the length of overnight stays would restrict visitors' freedom of choice and may cause displacement to other areas or zones. The proposed action would also decrease competition for favorite/desirable sites. Only a small population of visitors would be impacted by this action.

Allowing dispersed camping on the playa, except in bordering dune and hummock areas, would restrict visitors' freedom of choice in campsite location. There would likely be an increase in visitor displacement and overall camping opportunities would be limited. The improved ability to manage for the preservation of sensitive resources would enhance the perception of recreating in an area free from human disturbance.

The development of a comprehensive permit process would enhance the ability to manage for resource and visitor experience. The proposed actions would limit the number, location, or scale of permitted activities. The development of permit limitations would have long-term impacts on dispersed users and permittees. These limitations would help to retain or restore the natural quiet and solitude associated with primitive recreation in light of higher demand and visitation. There is also

potential to increase public access in areas where events are taking place. There would likely be decreased freedom of choice and increased competition for event location. Certain types of events that require large areas of public closure would be restricted. The current evaluation process would allow for a greater range of permitted activities than the proposed action, which would provide opportunities for a greater range of visitors. Spontaneity in permit applications would be increased with improved efficiency of the evaluation process.

From Public Outreach and Visitor Services Management

Expanding public awareness programs, continuing use of the visitor contact trailer, maintaining an information kiosk in Gerlach and other locations outside the NCA, as well as introducing low-impact recreation principles through volunteers and staff would bring long-term direct and indirect benefits to the visitor experience. These interpretive and educational actions would increase visitor's sense of appreciation and understanding of area resources, as well as visitors' awareness of important and sensitive values. Increased recreation opportunities would be available through on-the-ground programs and any additional interpretive exhibits. Indirect benefits would stem from a decrease in inadvertent impacts of visitor use, which would enhance the ability to manage for critical physical, social, and managerial settings of specified areas.

Restricting on-site development of interpretive facilities in all zones and removing those existing structures would have direct and indirect impact on the visitor experience. The proposed action would limit outreach capabilities and decrease the ability to enhance the visitor's sense of appreciation and understanding of area resources. The potential to increase awareness of important and sensitive values would be diminished, which could lead to increased inadvertent damage to resources and the primitive character of the area. Recreation opportunities associated with interpretive facilities would be lost. However, the absence of physical development would enhance self-discovery and exploration, and would strengthen the perception of recreating in an area free from human development.

Developing self-guided tours in Rustic and Front Country Zones would enhance opportunities to stimulate learning through self-discovery. Since self-guided tours would not require on-site development, the perception of recreating in an area free from human development would be retained. Many of the same benefits realized through other outreach efforts would also be enhanced.

4.2.2.20 Impacts on Social and Economic Conditions

Impacts on Recreation

Impacts of this alternative would be similar to those described for the No Action alternative.

Elements within proposed management prescriptions for this alternative both encourage and discourage recreation. However, recreation is expected to continue to grow at the rate described in the No Action Alternative. Increased visitation could be expected due to the development of a Public Outreach Program, and the growing public awareness that the Black Rock Desert has been designated as an NCA. Conversely, more rigorous management of recreation activities might discourage some visitors. Together, the emphasis on more management and control of recreation activities is seen as insufficient to discourage recreation visitation below normal growth levels but could limit increased visitation that might otherwise be expected to occur.

Stronger stipulations in special recreation permits would include measures for reimbursement on a cost-recovery basis. This would ensure that Federal expenditures necessitated for planning and managing large-scale events would more likely be fully reimbursed. Cost recovery would also provide compensation for the costs imposed upon public health, public safety, law enforcement, and medical services provided by the counties.

Impacts on Minerals and Energy

Locatable Minerals

A gold mining operation would be required to bear extra costs in order to conform to VRM Class III standards during construction and operation if located outside of wilderness. If located within the

South Jackson Wilderness Area, Class I VRM standards would apply, as in the No Action Alternative. In either case, it is doubtful that a gold mining operation, either open pit or below ground, could meet such standards. Some modification of operations by permit stipulation would be required. Should this alternative be selected, the gold mining operation could not be prohibited from proceeding if valid existing rights have been established.

Major gold mining companies are quite accustomed to preparing mining plans of operations and environmental assessments. These requirements could discourage smaller or higher risk based operations. However, in all such situations, the decision to proceed would be based on estimated returns over costs. For larger operations, those that entail major investment and the expected long-term returns, such additional costs are usually incidental, not prohibitive, and may exist in most mineral exploration and development areas. If any gold ore discoveries prove to be of sufficient quality, it is unlikely that a gold mining operation with valid existing rights would be deferred.

Leasable Minerals

Geothermal exploration and development would be less likely to occur under this alternative. The withdrawal from leasable development within the South Playa would close this potential development area to all except those with valid existing rights. Potential for development would be limited to the one existing geothermal lease in the South Playa Area. Only minor modifications and costs would be necessary to conform to VRM Class III standards in this area. Companies would make their investment decisions based on expected returns, taking into consideration the extra costs that might be entailed. The potential for an additional 12 jobs in the local area, and the associated incomes, including the possibility of nine local hires, which would result from the operation of a geothermal plant, would be less likely.

Saleable Minerals

No economic impacts are anticipated. Specific and necessary pits could be identified and authorized, and VRM Class III standards maintained.

The public lands outside of the planning area also contain abundant supplies of sand and gravel, so it is highly likely that alternative sources could

be found if necessary. Transportation costs could be affected if haul-distance is increased. It is estimated that transportation costs increase about 25 percent for each doubling of the haul-distance (Mine Cost Services, 1998).

Impacts on Lands and Realty

Impacts from issuance of land use permits would be similar to those described for the No Action Alternative.

There is concern with regard to the restriction on rights-of-way for utilities, which would only be granted for access to private lands and in support of valid existing rights. However, the question concerning availability of utilities appears to be moot. Current costs of providing electricity in these rural areas range upward from \$60,000 per mile. At this cost, electricity provided by gasoline generators or solar panels is already more cost effective.

Impacts on Road Maintenance and Repair

Impacts would be similar to those described for the No Action Alternative.

Some upgrading of roads based upon resource or public safety issues could impose additional maintenance costs. No additional impacts would occur to the counties.

Impacts on Law Enforcement and Court Costs

Impacts would be the same as those described for the No Action Alternative.

Impacts on Search and Rescue Operations

Impacts would be the same as those described for the No Action Alternative.

Impacts on Indigent Aid

Impacts would be the same as those described for the No Action Alternative.

4.2.3 ALTERNATIVE B

(PREFERRED)

(Emphasis on Response to Change)

In addition to the impacts from the common to all actions as indicated in the No Action Alternative discussion (Section 4.2.1), the following impacts would also occur as a result of Alternative B.

4.2.3.1 Impacts on Transportation and OHV

From Land Health Standards

Impacts would be the same as Alternative A.

From Transportation and OHV Management

Same as Alternative A, except upgrading the Sulfur Jackson Road to Maintenance Level 3 would improve drivability, increase safety for drivers, and increase public access due to the improved road condition. However, traffic may also increase because a wider range of vehicles could use the road. Costs to BLM would increase in the short term to upgrade the road; however, maintenance costs would be reduced in the long term because higher standard roads require less regular maintenance.

Developing public access on the east side of the Black Rock Range from Humboldt County road 214 to provide north-south access to Black Rock Point and east-west access to BLM road 2051 (Pahute Meadow Road) would increase public access to a large area associated with the southeastern and central portions of the Black Rock Range that is currently difficult to access. Unknown new costs are also associated with this action. The costs are unknown because there are a number of potential means of providing access.

Limiting OHV use to designated routes within the 346,191-acre limited area would reduce public access. Closure of 163 miles of vehicle routes would also decrease public access. However, these impacts would be less than those described for

Alternative A because 111 fewer miles of vehicle route would be closed.

From Cultural Resource Management

Impacts would be the same as those discussed for the No Action Alternative.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

No impacts are anticipated; no vehicle access routes would be closed.

From Special Designation Management

Impacts would be the same as for Alternative A.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Although sage-grouse habitat management would be somewhat different from the sage-grouse actions discussed under the No Action Alternative, the potential impacts on the transportation system would be the same.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be the same as for the No Action Alternative.

From Lands and Realty Management

Impacts would be the same as for the No Action Alternative.

From Minerals and Energy Management

Impacts would be the same as for the No Action Alternative.

From Recreation Management

Allowing only a maximum of two playa closures during large permitted events and limiting the occurrence of Class III and IV events simultaneously would decrease the amount of temporary decreased public access, and playa access could be maintained for other recreators.

From Public Outreach and Visitor Services Management

Developing a visitor center located along a major access corridor to the NCA would directly cause increases in traffic associated with the visitor center and indirectly increase traffic associated with improved visitor awareness of travel opportunities within the planning area. Costs would also increase for BLM, and to a lesser degree to the state and counties, to construct and maintain transportation related facilities directly associated with the center and indirect traffic increases associated with improved visitor awareness of travel opportunities within the planning area.

Providing on-site interpretive panels, public awareness programs, and informational kiosks in high-use camp areas in the Front Country Zone and along main travel corridors, and a scenic overlook with interpretive and safety information would increase safety for drivers by increasing awareness of hazards. However, costs to BLM associated with maintenance of transportation access to panels, kiosks, and overlooks would also increase.

4.2.3.2 Impacts on Cultural Resources

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Impacts would be similar to those described for Alternative A, except upgrading Stevens Camp to local road and Sulfur Jackson Road to Maintenance Level 3 could increase inadvertent damage or disturbance to cultural sites and the opportunity for vandalism and looting. The integrity of the setting of the emigrant trails and other cultural resources could also be impaired by the upgrades.

Adjusting functional classification or maintenance levels of BLM system roads or designated routes as needed could decrease inadvertent damage to cultural resources and maintain the integrity of cultural resources.

Developing public access on the east side of the Black Rock Range from Humboldt County Road 214 would increase public access to a large area associated with the southeastern and central portions of the Black Rock Range, which may result in increased opportunity for vandalism and looting.

Limiting OHV use to designated routes and closure of 163 miles of vehicle routes would reduce inadvertent damage to cultural sites and decrease the potential vandalism and looting.

From Cultural Resource Management

Managing cultural resources as to site types would improve protection and increase opportunities for historic preservation awareness and site preservation.

Emphasizing public use, with monitoring to determine if additional protection is needed, would enhance opportunities for scientific study and public use of cultural resources. However, inadvertent damage to cultural resources or vandalism and looting may occur before the additional protection is in place.

From Native American Values Management

Impacts would be similar to those described for Alternative A.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Locating the WSA boundary along a 100-foot offset from both sides of the centerline of the main Barlett Butte BLM system road #2052, the Summer Camp route, the Idaho Canyon route and the route into Wood Canyon would decrease inadvertent damage to cultural resources from unrestricted OHV traffic.

Excluding camping in Units 1 and 2 would decrease inadvertent damage to cultural resources and the opportunity for vandalism and looting.

From Special Designation Management

Not allowing camping within the High Rock Canyon portion of the ACEC or rock climbing adjacent to the emigrant trail would reduce the possibility of inadvertent damage or disturbance to cultural resources and opportunities for vandalism and looting.

Closing portions of the High Rock Canyon ACEC between the mouth of High Rock Canyon and 5 miles below Steven's Camp to visitor use from January 31 through May 15 each year would prevent damage to the emigrant trail from vehicular traffic during muddy periods.

Increasing the existing Soldier Meadows ACEC to approximately 2,077 acres and applying additional protection measures, including designated camping, fencing of sensitive resources, and livestock and wild horse and burro restrictions, would provide better protection of important cultural resource values. In the long term, opportunities for scientific study and public use of cultural resources would be enhanced.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Excluding the Stanley Camp Pasture within the Soldier Meadows allotment from livestock grazing or trailing would decrease inadvertent damage to cultural resources. Overall, the integrity of cultural resources would be maintained and the setting of the emigrant trails would be maintained or improved.

Authorizing grazing of the fenced portions of the Soldier Meadows ACEC consistent with

resource management objectives would increase the risk of inadvertent damage to cultural resources.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Using wildland fire and prescribed fire throughout the planning area to meet vegetation objectives could cause inadvertent damage to cultural resources during implementation. Overall, however, the integrity of cultural resources and the setting of the emigrant trails would be maintained or improved.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

Designating the South Playa as VRM Class III and the remaining portions of the planning area (excluding Wilderness Areas and the WSA) as VRM Class II would improve or maintain the integrity of the setting of the emigrant trails and other cultural resources. Indirectly, these designations would restrict activities that could damage cultural resources.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Impacts would be similar to those described for Alternative A.

From Recreation Management

Applying visitor restrictions, such as camping limits, activity restrictions, trail development bans, or a permit system if resource damage occurs would prevent or alleviate inadvertent damage or disturbance to cultural resources and improve protection or site stability. As a result of these

measures to increase resource protection, integrity of cultural resources would be maintained and the setting of the emigrant trails would be maintained or improved.

Applying camping restrictions if resource damage occurs, and closing dune and hummock areas on the playa to camping, would also protect cultural resources from inadvertent damage, vandalism, and looting; improve or maintain the integrity of cultural resources and their setting; and increase opportunities for cultural appreciation and discovery.

From Public Outreach and Visitor Services Management

Using interpretive techniques when needed to prevent resource damage or enhance visitor safety and providing a variety of visitor facilities, maps, and interpretive trails would increase the knowledge of the prehistory and history of the region and enhance opportunities for public use of cultural resources. This would also increase appreciation of cultural resources, decrease inadvertent damage, vandalism, and looting; maintain the integrity of cultural resources; and maintain or improve the setting of the emigrant trails.

4.2.3.3 Impacts on Native American Values

From Land Health Standards

Impacts would be the same as those described under Alternative A.

From Transportation and OHV Management

Impacts would be the same as those described under the No Action Alternative.

However, limiting 346,191 acres and 405 miles to OHV use on designated roads and vehicle routes could decrease effects on aquatic habitat adjacent to a few miles of closed route in Lahontan cutthroat trout habitat and therefore increase fishing opportunities for Tribal sustenance.

From Cultural Resource Management

Emphasizing public use of cultural resources could lead to potential conflicts with traditional Native American users.

From Native American Values Management

Impacts would be the same as those described under Alternative A.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Not allowing camping within the High Rock Canyon portion of the ACEC or rock climbing adjacent to the emigrant trail would reduce conflicts between users and preserve the opportunity to pursue traditional uses.

Increasing the existing Soldier Meadows ACEC to approximately 2,077 acres and applying additional protection measures, including designated camping only, fencing around sensitive resources, and livestock and wild horse and burro restrictions, would provide better protection for cultural resources and preserve the opportunity to pursue traditional uses.

From Vegetation Management

Impacts would be the same as those described under Alternative A.

From Livestock Grazing Management

Excluding the Stanley Camp Pasture within the Soldier Meadows allotment from livestock grazing or trailing would decrease inadvertent damage or disturbance to PCRI.

Authorizing grazing of the fenced portions of the Soldier Meadows ACEC consistent with resource management objectives would increase the risk of inadvertent damage or disturbance to PCRI.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Using wildland fire and prescribed fire throughout the planning area to manipulate the woody and herbaceous species to meet vegetation objectives could cause inadvertent damage or disturbance to cultural resources during implementation. Overall, however, the integrity of cultural resources and opportunities to pursue traditional uses would be maintained or improved.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

Designating the South Playa as VRM Class III and the remaining portions of the planning area (excluding Wilderness Areas and the WSA) as VRM Class II would increase integrity of cultural resources, and opportunities to pursue traditional uses would be maintained or improved. Indirectly, these designations would restrict activities that could damage resources important to traditional users.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Impacts would be similar to those described for Alternative A.

From Recreation Management

Applying visitor restrictions, such as camping limits, activity restrictions, trail development bans, or a permit system if resource damage occurs from recreation activities would prevent or alleviate inadvertent damage or disturbance to cultural resources. As a result of these measures to increase resource protection, integrity of the setting of important Native American locations would also be maintained or improved in the long term.

Applying camping restrictions, such as allowing dispersed camping throughout the zone

except within one-half mile of designated campsites, applying restrictions if resource damage occurs, and closing dune and hummock areas on the playa to camping, would also protect cultural resources from inadvertent damage and reduce opportunities for looting and vandalism.

From Public Outreach and Visitor Services Management

Using interpretive techniques when needed to prevent resource damage or enhance visitor safety and providing a variety of visitor facilities, maps, and interpretive trails would increase the knowledge of Native American values. Indirectly, increased appreciation of Native American values could decrease inadvertent damage to cultural resources, decrease conflicts between traditional users and recreationists, and improve or maintain the integrity and their traditional settings.

4.2.3.4 Impacts on Paleontological Resources

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Impacts would be similar to those described for Alternative A, except upgrading Stevens Camp to local road and Sulfur Jackson Road to maintenance level 3 would increase inadvertent damage or disturbance to paleontological resources and the opportunity for vandalism and looting.

Adjusting functional classification or maintenance levels of BLM system roads or designated routes as needed could decrease inadvertent damage to paleontological resources.

Developing public access on the east side of the Black Rock Range from Humboldt County road 214 would increase public access to a large area associated with the southeastern and central portions of the Black Rock Range, which may result in increased opportunities for fossil theft and vandalism and increased chances of alteration and erosion of sites.

Limiting OHV use to designated routes and closure of 163 miles of vehicle routes would reduce inadvertent damage to paleontological resources and decrease the potential for vandalism and looting.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

Impacts would be the same as those described under Alternative A.

Allowing collection of petrified wood and common invertebrate fossils throughout the planning area would increase the risk of inadvertent damage to important sites. Restricting collection in the Hanging Rock Petrified Forest to permitted scientific purposes could result in conflicts with rock hounds accustomed to collecting petrified wood in that area.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Impacts would be similar to those described for Alternative A.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

Impacts would be similar to those described for the No Action Alternative.

From Fish and Wildlife Management

No impacts are anticipated.

From Visual Resource Management

No impacts are anticipated.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

Continuing to designate the one utility corridor south of the Union Pacific railroad tracks for buried utilities would increase the risk of inadvertent damage to important sites and could result in fossil theft, breakage, and displacement and vandalism, alteration, and erosion of sites.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Authorizing collection of rocks, minerals, and common invertebrate fossils with limits by permit only would decrease the risk of inadvertent damage to important sites and decrease fossil theft, breakage, and displacement. Issuing permits would educate collectors, increase appreciation of paleontological resources, decrease conflicts, and enhance scientific inquiry and/or public use.

From Public Outreach and Visitor Services Management

Using interpretive techniques when needed to prevent resource damage or enhance visitor safety and providing a variety of visitor facilities, maps, and interpretive trails would increase the knowledge and appreciation of paleontological resources. Increased appreciation of paleontological resources could decrease inadvertent damage to paleontological resources, and reduce the risk of fossil theft, breakage, displacement and vandalism, alteration, and erosion of paleontological sites.

4.2.3.5 Impacts on Wilderness

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would be similar to those described for the No Action Alternative.

From Cultural Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Wilderness Management

Signing wilderness boundaries at approximately 1-mile intervals along all boundary roads would not be as frequent as Alternative A. The possibility for motorized trespass by visitors not knowing where the wilderness boundaries are located would be slightly increased.

Adding all 10 acquired wilderness inventory units to the WSA and offsetting the WSA boundary in Units 1 and 2 along 100 feet from both sides of the centerline of the routes would increase naturalness throughout the WSA, while allowing for traditional vehicle camping along the main routes.

Closing the Lahontan Cutthroat Trout Area seasonally to motor vehicles during the spawning season of the Lahontan cutthroat trout if needed would increase the opportunities for solitude and primitive recreation during the closure, and enhance the special fisheries values found in the area.

From Special Designation Management

Impacts would be similar to those described for Alternative A.

From Vegetation Management

Allowing vegetation treatment if it is the minimum required action for the management of wilderness could maintain or enhance naturalness; however, solitude may be decreased short term.

From Livestock Grazing Management

Impacts would be similar to those described for Alternative A.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Allowing wildland fire to play a more natural role on 1,214,514 acres of Category B lands and providing opportunities for prescribed fire could increase naturalness where fire is desired and the risks associated with invasive species are low. In the short term, solitude would be decreased during the activities.

From Fish and Wildlife Management

Allowing animal damage control in wilderness could decrease naturalness and opportunities for solitude and primitive recreation.

Maintaining the 14 existing small game wildlife water developments and constructing new developments could decrease naturalness and solitude in the immediate vicinity of those projects. These manmade structures in the wilderness would be a constant reminder of the human manipulation in the area and would reduce naturalness. During maintenance and new construction, solitude would be reduced temporarily in the immediate area.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Impacts would be similar to those described for Alternative A.

From Recreation Management

Restricting uses that are causing resource impacts would maintain naturalness and opportunities for solitude and primitive recreation.

Requiring a permit for collection of rocks, minerals, and common invertebrate fossils would allow BLM to contact collectors beforehand and inform them of sensitive resources and regulation. This information would reduce the impact these collectors have on naturalness. Applying limits to rock, mineral, and invertebrate fossil collection would reduce the impacts associated with collection.

Designating the Desert Trail Corridor through the Wilderness Areas would allow more people to access and enjoy those Wilderness Areas, which could increase opportunities for primitive recreation. Increased visitor use could also decrease naturalness in the vicinity of the emigrant trail corridor.

Implementing group size limits if impacts on resources occurred or the visitor experience was impaired would enhance or maintain naturalness, primitive recreation or solitude, and special features.

From Public Outreach and Visitor Service Management

Not allowing onsite outreach, interpretive, or regulatory information in the Wilderness Zone, except when required to protect resources, could indirectly enhance naturalness and primitive recreation.

4.2.3.6 Impacts on Special Designations

4.2.3.6.1 ACECs

From Land Health Standards

Impacts would be the same as for Alternative A.

From Transportation and OHV Management

Impacts would be to the same as for Alternative A.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Although both ACECs would be smaller than for Alternative A and some camping would be allowed, the impacts would be largely the same as Alternative A. Camping would be allowed only in portions of the ACECs that would not affect the values for which the ACECs were designated. In the High Rock Canyon ACEC, the portion of the area that receives most of the visitor use would remain in the ACEC. In the Soldier Meadows ACEC, the habitats of the rare species would remain in the ACEC.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those described for Alternative A.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Impacts would be similar to those described for the No Action Alternative.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

Applying limits on human activities, constructing facilities around hot springs, or implementing a permit system if resource impacts are occurring would decrease disturbance of important habitat for the desert dace, springsnails, and basalt cinquefoil. Adapting to changing recreation user situations would allow protection of the primitive character of the canyon and associated emigrant trail segment, eliminate problems with camping in sites sensitive to resource, and alleviate visual impacts.

From Public Outreach and Visitor Service Management

Using interpretive techniques, including on-the-ground elements, to prevent resource damage and constructing an off-site visitor center would increase public appreciation of ACEC values. Indirectly, if habitat for the desert dace, springsnails, and basalt cinquefoil is disturbed, the primitive character of the High Rock area and associated emigrant trail segments could be reduced.

4.2.3.6.2 Wild and Scenic Rivers

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would generally be similar to those described for the No Action Alternative; however,

closure of 163 miles of routes would further protect the outstandingly remarkable values of the eligible streams by reducing riparian damage and sedimentation caused by vehicle use.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

The 10 acquired parcels in the Lahontan Cutthroat Trout WSA also contain segments of Mahogany and Summer Camp Creeks; therefore, managing the parcels as part of the WSA would also protect the values associated with those streams. The 100-foot offset from centerline of the main Barlett Butte BLM system road 2052, the Summer Camp route, the Idaho Canyon route, and the route into Wood Canyon in Units 1 and 2 would continue to allow users to camp in or near the riparian area of Mahogany Creek and would allow impacts associated with camping to continue.

Seasonally closing the Lahontan Cutthroat Trout Area to motor vehicles if monitoring indicates that impacts are occurring would decrease the impacts that vehicle use has on the fish in Mahogany, Summer Camp, and Snow Creeks and increase the viability of that species, preserving the outstandingly remarkable values.

From Special Designation Management

Allowing camping in the High Rock Canyon portion of the High Rock Canyon ACEC and the Soldier Meadows ACEC only in designated sites would reduce impacts from camping (such as trampling of vegetation and vandalizing of historic sites) on the outstandingly remarkable values of High Rock Canyon, Mahogany, and Soldier Meadows Creeks. Allowing camping in designated sites would allow recreation to continue and would confine camping-related impacts to those small areas.

Closing a portion of the ACEC between the mouth of High Rock Canyon and 5 miles below

Stevens Camp from January 31 through May 15 each year would reduce opportunities for recreation along High Rock Canyon Creek, which is one of the outstandingly remarkable values for which High Rock Canyon Creek was found eligible.

Rerouting the existing hot spring access road and closing spur roads would reduce the impacts from vehicles on the vegetation and fish associated with Soldier Meadows Creek.

Minimizing human impacts on springs and streams within the Soldier Meadows ACEC would maintain the values associated with Soldier Meadows Creek.

Fencing and restricting grazing in the Soldier Meadows ACEC could reduce impacts from livestock and wild horses on vegetation and fish associated with Soldier Meadows Creek.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative.

From Livestock Grazing Management

Impacts would be similar to those described for Alternative A.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Applying limits on human activities, constructing facilities around hot springs, or implementing a permit system if resource impacts are occurring could reduce impacts on outstandingly remarkable values.

Allowing dispersed camping throughout the Rustic Zone except within one-half mile of designated camp sites and limiting drive-in camping to designated sites in portions of High Rock Canyon ACEC outside of Wilderness and rustic portions of the Lahontan Cutthroat Trout Area could reduce impacts on values associated with Soldier Meadows Creek, if restrictions are implemented.

From Public Outreach and Visitor Service Management

Implementing interpretive techniques, including on-the-ground elements, to prevent resource damage and constructing an offsite visitor center could indirectly protect outstandingly remarkable values by decreasing recreational disturbance. However, increasing outreach could also increase visitation to the area, which could impact the outstandingly remarkable values in the long term.

4.2.3.7 Impacts on Vegetation

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would generally be similar to those described for Alternative A because changes in maintenance levels on a few roads would not change the area of surface disturbance.

Developing public access on the east side of the Black Rock Range would potentially degrade species composition, productivity, and structure of upland and riparian plant communities on less than 5 miles of new road where new road alignments

would be developed. The construction of up to 5 miles of new road may also increase soil compaction and vegetation damage from vehicles on areas adjacent to new roads.

Closing 163 miles of road and limiting 346,191 acres and 405 miles to OHV use on designated vehicle routes would improve species composition, productivity, and structure of upland and riparian plant communities and; lead to the elimination of noxious weeds, and could reduce, increase, or maintain soil compaction and vegetation damage from vehicles.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Impacts would be similar to those described for Alternative A.

From Special Designation Management

Although the High Rock Canyon ACEC would be decreased by 18,342 acres, the impacts would be the same as for Alternative A because the areas designated under this alternative would include all the areas subject to vegetation disturbance associated with vehicle use and camping.

Impacts from management actions in the Soldier Meadows ACEC would be similar to those described for Alternative A. However, vegetation disturbance and compaction would be increased on a few acres associated with designated camping areas.

From Vegetation Management

Impacts would generally be the same as for Alternative A; however, allowing vegetation treatments, including prescribed fire, in all Wilderness Areas would potentially improve species composition, productivity, and structure of upland and riparian plant communities on, at most, a few hundred acres per decade.

From Livestock Grazing Management

Impacts would be the same as for Alternative A.

From Wild Horse and Burro Management

Impacts would be the same as for the No Action Alternative.

From Fire Management

Impacts would be similar to those described for Alternative A.

From Fish and Wildlife Management

Impacts associated with sage-grouse habitat management actions would be similar to those described for Alternative A.

Maintaining existing and constructing new wildlife water developments would degrade species composition, productivity, and structure of upland communities on less than an acre associated with project development and increase soil compaction and vegetation damage from vehicles on a few acres.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Impacts would be similar to those described for the No Action Alternative. Although the potential limitation on recreation users would be applied in a different manner, it is likely that the area of vegetation affected would be similar.

From Public Outreach and Visitor Services Management

Impacts would generally be similar to those described for Alternative A. However, developing a visitor center outside the NCA could result in a potential loss of vegetation on a few acres outside the planning area if a previously undisturbed site is chosen; and elimination of noxious weeds might occur if visitors take measures to decrease weed spread and report new infestations.

4.2.3.8 Impacts on Livestock Grazing

From Land Health Standards

Applying the Rangeland Health Standards to all uses and programs would have impacts similar to those described for the No Action Alternative.

From Transportation and OHV Management

In addition to the impacts discussed in the No Action Alternative, designation of transportation routes and OHV classifications would cause decreased access to rangelands by vehicle and increased travel times due to closure of 163 miles of vehicle routes.

Public access on the east side of the Black Rock Range would have the potential to increase vandalism of livestock-related projects, increase livestock loss, and increase operational expenses of livestock operators with improved roads that allow more visitors access. The action would also result in decreased maintenance to vehicles and shorter travel times on the improved access.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

Although the Soldier Meadows ACEC would be 1,693 acres smaller than in Alternative A, impact on livestock grazing would be similar to that in Alternative A because the fenced area is expected to be the same.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those described for Alternative A. Additionally, adjusting the boundaries of the Buffalo Hills, Jackson Mountains, and Paiute Meadows Allotments without adjusting permitted forage use would maintain operator flexibility related to livestock grazing practices on areas in Buffalo Hills, Paiute Meadows, and Jackson Mountains Allotments by authorizing use on 26,385 acres historically used for livestock but not in grazing allotments. These actions would also maintain areas historically available for livestock grazing.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

Allowing animal damage control to be conducted in wilderness by USDA Wildlife Services only to protect threatened and endangered species, to prevent the transmission of disease to other wildlife or humans, and to prevent serious losses to domestic livestock would maintain the opportunity to remove predators causing losses of livestock.

Management of sage-grouse habitats to aid in the recovery of the species would potentially decrease operator flexibility related to livestock grazing practices, including intensity, duration, frequency, timing, and areas of grazing use.

From Visual Resource Management

No impacts are anticipated.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Service Management

Current conditions would be maintained.

4.2.3.9 Impacts on Wild Horses and Burros

From Land Health Standards

Impacts would be the same as for Alternative A.

From Transportation and OHV Management

In addition to the impacts in the No Action Alternative, closing 163 miles of vehicle route to OHV use could decrease human contact with wild horses and burros, resulting in decreased animal harassment and potential theft of wild horses and burros.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

Impacts would be the same as for Alternative A.

From Vegetation Management

Impacts would be the same as for the No Action Alternative.

From Livestock Grazing Management

Impacts would be the same as for the No Action Alternative.

From Wild Horse and Burro Management

Impacts would be the same as for the No Action Alternative.

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

Impacts would be the same as for the No Action Alternative.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be the same as the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

Current conditions would be maintained.

4.2.3.10 Impacts on Fire Management

From Land Health Standards

Impacts would be the same as Alternative A.

From Transportation and OHV Management

Impacts would be the same as Alternative A. However, the access improvement in the Black Rock Range would improve the effectiveness of fire protection to central part of that range by providing new access. Additionally, there is the potential for an increase in human-caused fires due to increase visitor access to central part of Black Rock.

Revised route designations could degrade effective fire protection by decreasing access for fire suppression resources due to closure of 163 miles of existing vehicle routes. This could also result in increased fire suppression costs and a decrease in the potential for human-caused fires by decreasing public access.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Prescribed burning in wilderness areas to manipulate vegetation to benefit other resources would change the fuel loading a few hundred acres and have little affect on wildland fire size, intensity and indirectly fire suppression efforts.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those described for the No Action Alternative.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

In addition to the impacts in Alternative A, prescribed fire could also be used on a site-specific basis to accomplish localized small-scale projects consistent with the vegetation objectives in wilderness. The impacts would be the same as the No Action Alternative.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative.

4.2.3.11 Impacts on Fish and Wildlife

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts from transportation maintenance and functional classes would be similar to those described for Alternative A since the area of road disturbance and amount of visitor use from these actions would not measurably change.

Impacts from providing public access on the east side of the Black Rock Range are unknown because specifics of how this would be accomplished are unknown. Improvements could range from no impact if ROWs for existing routes could be obtained to degrading habitat on a few acres if new roads are constructed and reducing wildlife populations in the immediate area of new road construction.

Limiting 346,191 acres and 405 miles to OHV use on designated roads and vehicle routes could decrease erosion and sedimentation of aquatic habitat adjacent to a few miles of closed route in Lahontan cutthroat trout habitat

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Closing the Lahontan cutthroat trout Area to motor vehicles if monitoring indicates impacts are occurring to the spawning habitat would decrease erosion and sedimentation of aquatic habitat by elimination of vehicle use during period of year most likely to have increased sedimentation associated with vehicle use of wet roads. Reducing human use during half the year would decrease the chance of wildlife being disturbed or harassed, protect and enhance wildlife habitat within the Lahontan cutthroat trout Area, and decrease inadvertent disturbance by visitors.

From Special Designation Management

Although High Rock Canyon ACEC would be reduced in size and the Soldier Meadows ACEC would be increased in size, the actions would have

the same impact as discussed in Alternative A because the ACEC would include the portions that are most sensitive to human impacts.

From Vegetation Management

Impacts from vegetation management would be the same as those for Alternative A, because most of the actions are the same. In addition, allowing vegetation treatments, including prescribed fire, in Wilderness Areas would restore native vegetation communities on a few hundred acres and enhance wildlife habitat and species viability.

From Livestock Grazing Management

Authorizing grazing within the fenced portions of the Soldier Meadows ACEC consistent with resource management objectives would maintain or enhance wildlife habitat and species viability, which could lead to increased wildlife populations. Limiting grazing near riparian areas would protect aquatic wildlife and sensitive riparian habitat.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Impacts would be similar to those described for Alternative A, using wildland fire and prescribed fire throughout the planning area to manipulate the woody and herbaceous species to meet vegetation objectives could disturb wildlife during implementation, but would also improve and enhance wildlife habitat in the long-term.

From Fish and Wildlife Management

Impacts would be similar to those described for Alternative A, allowing animal damage control in wilderness to protect threatened and endangered species and prevent the transmission of disease to other wildlife or humans may lead to decreased predator populations and increased prey species viability.

Managing sage-grouse and other sage brush obligate species habitats for the long-term sustainability of sage-grouse and other sagebrush dependent wildlife species would enhance protect

and enhance habitats and species viability of sage-grouse, other sagebrush dependent species, non-game species dependent on mountain shrub and aspen stands, and sagebrush stands needing changes to understory vegetation.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Although recreation management actions in Alternative B are somewhat less restrictive than Alternative A, the concept of adapting restriction on recreation use as needed to protect resources would result in the same impacts.

From Public Outreach and Visitor Services Management

Using interpretive techniques, including on-the-ground elements, to prevent resource damage and developing an off-site visitor center would potentially decrease the chance of wildlife being disturbed or harassed through increase visitor appreciation of the wildlife values.

4.2.3.12 Impacts on Special Status Species

4.2.3.12.1 Plants

There would be no impact to special status plant species except basalt cinquefoil as discussed for the No Action Alternative.

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would be similar to those described for Alternative A.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

No impacts are anticipated.

From Special Designation Management

Impacts would be similar to those described for Alternative A, even though the Soldier Meadows ACEC is smaller in size and actions change somewhat, impacts to basalt cinquefoil habitat would be the same.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

Impacts would be similar to those described for Alternative A.

From Wild Horse and Burro Management

Impacts would be similar to those described for Alternative A.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Impacts would be similar to those described for Alternative A.

From Visual Resource Management

No impacts are anticipated.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

Applying limits on human activities, constructing facilities around hot springs, or implementing a permit system if resource impacts are occurring would potentially improve basalt cinquefoil habitat and increase their populations. If restrictions implemented include information about protection of basalt cinquefoil, increased visitor awareness could indirectly decrease inadvertent disturbance.

From Public Outreach and Visitor Services Management

Using interpretive techniques, including on-the-ground elements, to prevent resource damage or to enhance visitor safety could indirectly decrease inadvertent disturbance.

4.2.3.12.2 Fish and Wildlife

There are no known impacts to black tern, least bittern, and white-faced ibis because of the lack of wetlands and actions affecting those areas.

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would be similar to those described for Alternative A, limiting 346,191 acres and 405 miles to OHV use on designated roads and vehicle routes would close 163 miles of vehicle routes, which would potentially decrease disturbance and could improve special status species habitats and increase their populations

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Impacts would be similar to those described for Alternative A.

From Special Designation Management

Impacts would be similar to those described for Alternative A, even though the High Rock Canyon and Soldier Meadows ACECs are smaller in size and actions change somewhat, impacts to special status species and their habitats would be the same.

From Vegetation Management

Impacts would be similar to those described for those discussed for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those described for those discussed for Alternative A.

From Wild Horse and Burro Management

Impacts would be similar to those described for those discussed for the No Action Alternative.

From Fire Management

Impacts would be similar to those described for Alternative A.

From Fish and Wildlife Management

Impacts would be similar to those described for Alternative A.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

Applying limits on human activities, constructing facilities around hot springs, or implementing a permit system if resource impacts are occurring would potentially improve sensitive habitats and increase special status species populations. If restrictions implemented include information about protection of special status species, increased visitor awareness could indirectly decrease inadvertent disturbance.

From Public Outreach and Visitor Services Management

Using interpretive techniques, including on-the-ground elements, to prevent resource damage or to enhance visitor safety could indirectly decrease inadvertent disturbance to special status animal species.

4.2.3.13 Impacts on Visual Resources

From Land Health Standards

Impacts would be similar to those discussed for Alternative A.

From Transportation and OHV Management

Developing public access on the east side of the Black Rock Range from Humboldt County Road 214 and resulting damage from vehicle use could be visually intrusive in some viewsheds and could degrade the settings of historic trails.

Limiting 346,191 acres and 405 miles of route for OHV use on designated roads would enhance visual resources by reducing soil disturbance,

increasing vegetative ground cover, and reducing dust.

Maintaining existing directional signs would be maintained and adding new signs to prevent resource damage or visitor confusion could increase the number of road signs and lead to minimal reductions in visual quality and in the area's primitive, undeveloped character, naturalness, and sense of isolation.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Signing Wilderness boundaries at approximately one-mile intervals along all boundary roads or as needed may reduce the primitive, undeveloped viewsheds and degrade the settings of historic trails.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Impacts would be similar to those discussed for the No Action Alternative.

From Livestock Grazing Management

Impacts would be similar to those discussed for the No Action Alternative.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Impacts would be similar to those discussed for Alternative A.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

Designating one utility corridor south of the Union Pacific Railroad tracks for buried utilities would protect viewsheds by placing major new underground utilities beyond an existing man-made corridor. Authorizing rights-of way for buried utilities in the Front Country and Rustic zones would minimally reduce visual quality during and immediately following construction.

From Minerals and Energy Management

Impacts would be similar to those described for Alternative A.

From Recreation Management

Applying visitor restrictions if resource damage occurs, such as camping limitations and constructing trails, would alleviate surface disturbance and damage to vegetation where restrictions are applied, potentially improving viewsheds within these areas.

Encouraging the development of privately operated campgrounds on public lands outside of the NCA and on private lands both inside and outside of the NCA boundary could diminish the quality of the viewshed in these areas depending on the level of development that takes place. However, potentially displacing camping to lands outside the NCA may reduce the level of surface disturbance and vegetation damage within the planning area.

Limiting Class III and IV events to a designated area within the Playa and designating a rocket launch area to reduce disturbances to vegetation, soils and riparian zones would protect visual resources.

From Public Outreach and Visitor Services Management

Impacts would be similar to those discussed for the No Action Alternative.

4.2.3.14 Impacts on Water Resources

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would be similar to those discussed for the No Action Alternative. However, upgrading 9 more miles of road and closing 163 miles of road would reduce the amount of erosion and sedimentation, which would protect water resources.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Adding all ten acquired wilderness inventory units to the WSA and offsetting the WSA boundary in Units 1 and 2 along a 100-foot from both sides of the centerline of the routes would decrease vehicular traffic and other uses in these areas, thereby reducing soil erosion and stream sedimentation. However, vehicular traffic immediately outside the WSA may be increased, resulting in increased soil erosion and stream sedimentation.

Closing the Lahontan cutthroat trout Area seasonally to motor vehicles during the spawning season of the Lahontan Cutthroat Trout if needed would reduce soil erosion and subsequent stream sedimentation, leading to increased hydrologic function.

From Special Designation Management

Extending the closure period of a portion of High Rock Canyon ACEC would decrease soil disturbance, compaction, and erosion.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those described for the No Action Alternative.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative. In addition, localized soil disturbance, compaction, and erosion would occur from the placement of a utility corridor south of the Union Pacific railroad tracks.

From Minerals and Energy Management

Impacts would be similar to those described for Alternative A.

From Recreation Management

Adapting management to prevent resource damage from recreational use would minimize soil disturbance, compaction, and erosion.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative, although outreach actions vary under this alternative.

4.2.3.15 Impacts on Lands and Realty

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Current conditions would be maintained.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Designating one utility corridor, 2.75 miles wide, south of the Union Pacific railroad tracks for buried utilities would accommodate development of underground utilities while eliminating the possibility of constructing overhead utilities, which would increase the cost of installation.

Maintaining and permitting rights-of-way grants for buried utilities in Rustic and Front country zones would accommodate development at slightly higher costs and encourage some development on private lands.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

Current conditions would be maintained.

From Public Outreach and Visitor Services Management

No impacts are anticipated.

4.2.3.16 Impacts on Minerals and Energy

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Current conditions would be maintained.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

No impacts are anticipated.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Impacts are similar to those described for Alternative A.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Designating one utility corridor, 2.75 miles wide, south of the Union Pacific railroad tracks for buried utilities would have similar impacts to the No Action Alternative.

Maintaining and permitting rights-of-way grants for utilities in Rustic and Front country zones would increase the cost of development

From Minerals and Energy Management

Impacts would be similar to those described for Alternative A.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

No impacts are anticipated.

4.2.3.17 Impacts on Air Quality

From Land Health Standards

Current conditions would be maintained.

From Transportation and OHV Management

Road management activities would result in the same impacts as Alternative A. Road upgrades and additional closures/limitations would result in reduced fugitive dust from vehicular traffic.

Providing greater public access on the east side of the Black Rock Range would result in potentially greater vehicular traffic throughout that area and potentially greater fugitive dust emissions.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Current conditions would be maintained.

From Livestock Grazing Management

Current conditions would be maintained.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Wildland fire and prescribed fire techniques used throughout the planning area would lead to more frequent, periodic increases in smoke and decreased visibility.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Implementing visitor restrictions, such as group size or camping restrictions, where resource damage is occurring and limiting drive in camping to portions of the High Rock Canyon ACEC outside of Wilderness may indirectly decrease fugitive dust from recreation activities.

Limiting Class III and IV events to eight weekends a year, restricting these events to designated areas within or near the playa, and limiting the number of events that could occur simultaneously could result in increased events on the playa, which would increase fugitive dust production over current levels.

From Public Outreach and Visitor Services Management

No impacts are anticipated.

4.2.3.18 Impacts on Soils

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Providing upgraded roads and road closures would result in decreased soil erosion and increased soil productivity.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Extending the closure period of a portion of High Rock Canyon ACEC would decrease soil disturbance.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those described under the Land Health Standards.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Impacts would be similar to those described for the No Action Alternative.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Localized short-term soil disturbance would occur from the placement of a utility corridor south of the Union Pacific railroad tracks.

From Minerals and Energy Management

Impacts would be similar to those described for Alternative A.

From Recreation Management

While this alternative is less restrictive regarding location, duration, and group size for camping and other activities than Alternative A, it would still protect soils by applying management restrictions where monitoring indicates the need.

From Public Outreach and Visitor Services Management

Short-term impacts would occur from increased visitor use until monitoring identified the need for protective measures. Long-term soil stability would be improved from outreach methods used to mitigate resource impacts.

4.2.3.19 Impacts on Recreation

From Land Health Standards

Current conditions would be maintained.

From Transportation and OHV Management

Same as Alternative A, except upgrading the Sulfur Jackson Road to Maintenance Level 3 would increase public access throughout the planning area, providing opportunities for a wider range of visitors. The potential for increased traffic along these routes could result in a decrease of natural

quiet and solitude associated with primitive recreation.

Using an adaptive management approach to assign BLM System roads or designated routes a functional classification or maintenance level would enhance the ability to manage certain areas for critical environmental settings. Unwarranted management actions that would negatively impact the visitor experience or the area's primitive character would be avoided.

Public access through and across the planning area would be enhanced, by developing public access easements or developing a travel corridor on the east side of the Black Rock Range from Humboldt County Road 214, north-south access to Black Rock Point and east-west access to BLM Road 2051 (Pahute Meadow Road), and by acquiring public access easements or developing road alignments in areas where public roads cross private property. Recreation opportunities would also be expanded as a result of improved access. However, some areas that currently receive minimal use may experience increased visitation resulting in the loss of solitude and natural quiet.

Designating 346,191 acres as limited to designated roads would restrict the freedom for cross-country travel and reduce conflicts between motorized and non-motorized users. Within this area, 389 miles of routes would be designated as available for vehicle use, which would make more routes available for vehicle use than in Alternative A. Since visitor-use data indicates that most multi-passenger vehicles are operated on the playa and existing roads, the OHV limitations proposed in this alternative are not expected to impact this segment of users. An extensive road system should off-set lost opportunities, but OHV users who enjoy cross-country travel would likely be displaced to areas outside of the planning area. Overall impacts to motorized users would be less as compared to alternative A.

Installation and maintenance of directional signs at intersections of BLM system, State, and County roads would reduce visitor confusion and increase public safety.

Using an adaptive management approach to evaluate and implement alternative methods of providing location and directional information to visitors would reduce unnecessary signage that diminishes the perception of recreating in an environment free from human development.

However, an approach of this type could initially result in visitor confusion, which could lead to unsafe conditions.

From Cultural Resource Management

Emphasizing public use would increase the availability of cultural resources for interpretation. Improved visitor awareness and appreciation for cultural resources would enhance the preservation of rare resources for discovery by future generations.

From Native American Values Management

Managing Properties of Cultural and Religious Importance (PCRI) under the Traditional Use Category would enhance the preservation of rare resources for discovery by future generations. There would, however, be the potential for conflict between recreation users and traditional users.

From Paleontological Resource Management

Managing Properties of Cultural and Religious Importance (PCRI) under the Traditional Use Category would enhance the preservation of rare resources for enjoyment of future generations. There would, however, be potential conflict between recreation users and traditional users.

Closing the Hanging Rock Petrified Forest area to petrified wood and other fossil, rock, and mineral collection would contribute to the long-term preservation of rare resources for discovery by future generations. The proposed action has the potential to restrict visitor's freedom of choice and certain recreational activities in desirable and traditionally used areas.

From Wilderness Management

Signing wilderness boundaries would help to increase visitor awareness of areas having important and sensitive values. A long-term increase in primitive character would be expected due to a reduction of motorized trespass and the creation of new ways in wilderness areas. These potential outcomes would enhance the perception of recreating in an area free from human development. A decrease in conflict between motorized and non-motorized users would also be expected.

The addition of all 10 acquired parcels within the Lahontan cutthroat trout WSA to the existing

WSA, limiting vehicle access to BLM system roads and existing designated routes, as well as providing a one-hundred foot offset from the centerline of routes, would have long-term impacts to management and the visitor experience. Retaining the existing vehicle access routes would reduce the ability to manage the existing WSA for wilderness characteristics and important values associated with primitive recreation. Retaining these routes with a one hundred foot buffer, would maintain current opportunities associated with motorized travel and vehicle camping, which would provide for a decreased range of visitors.

Implementing mitigating actions when Lahontan cutthroat trout habitat is threatened by human use could restrict certain recreational activities in desirable and traditionally used areas of riparian and spring complexes. The proposed action would have the potential to displace use to other areas.

From Special Designation Management

Limiting camping to designated sites in the Rustic portions of High Rock Canyon ACEC and Soldier Meadows ACEC, would have direct and indirect benefits to the visitor experience. There would be decreased opportunities for camping with a loss in visitor's freedom of choice in campsite locations. This restriction would likely cause visitor displacement and may increase competition for desirable campsites, but would decrease competition for day-use recreation opportunities at attraction areas. Through improved protection of wildlife populations there would be a long-term increase in wildlife viewing and hunting opportunities. The proposed restrictions would also increase protection of rare resources for enjoyment by future generations. Although the natural quiet and solitude associated with primitive recreation could be diminished at and around designated campsites, it would be expected to increase in other parts of these ACEC's.

Restricting climbing in High Rock Canyon would limit climbing opportunities in the planning area. This impact would be localized and minimal since climbing is not currently known to be occurring in the canyon. Improved protection of raptor and bighorn breeding would potentially increase populations of these species, thereby

increasing opportunities for wildlife viewing and hunting.

Closing portions of the High Rock ACEC between the mouth of High Rock Canyon and five miles below Steven's Camp from January 31st through May 15th would restrict recreational activities in desirable and traditionally used areas. There would be a high potential for visitor displacement to other areas inside and outside of the planning area, especially during the spring season. The improved protection of wildlife populations would increase opportunities for wildlife viewing and hunting during other times of the year. Overall, there would be less impacts to recreation users when compared to alternative A, since the area of closure would be reduced.

Rerouting the Soldier Meadows hot spring access road would decrease vehicle access to the area, thereby limiting the range of recreation opportunities for motorized users. This would increase the potential for visitor displacement to other areas inside and outside of the planning area. However, opportunities for natural quiet and solitude would be enhanced, and conflict among different user-types would be minimized. Impacts related to vehicle travel and camping would also be minimized, which would enhance the perception of recreating in an undisturbed area.

Fencing the Soldier Meadows ACEC would increase visitor's awareness of important and sensitive values contributing to the preservation of rare resources for enjoyment by future generations. However, the proposed action would diminish opportunities for unconfined recreation in an area free from human development.

Using an adaptive management approach to adjust management actions to recover rare species of the ACEC would enhance the ability to manage specific areas for their critical environmental settings, while further protecting rare resources for enjoyment by future generations. The proposed action has the potential to restrict certain recreational activities in desirable and traditionally used areas of riparian and spring complexes, and may result in visitor displacement to other areas inside and outside of the planning area.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative.

From Livestock Grazing Management

Current conditions would be maintained.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Actions taken to repair, maintain, and reconstruct existing wildlife related projects, including water developments would have the potential to diminish critical physical, social, and managerial settings of specified areas. Allowing motorized activities associated with these activities would decrease natural quiet and solitude associated with primitive recreation. The proposed actions would also diminish the perception of recreating in an area free from human development, since permanent structures would remain inside wilderness. However, the increased ability to manage wildlife populations would have the potential to increase wildlife viewing and hunting opportunities throughout the planning area. Regular inspections of projects would minimize impacts from the proposed actions by reducing the amount of maintenance and reconstruction required.

Allowing construction of new water developments or other wildlife related projects within wilderness near High Rock Canyon for bighorn lambing, would have the potential to diminish critical physical, social, and managerial settings of specified areas. Allowing motorized activities associated with these activities would decrease natural quiet and solitude associated with primitive recreation. The proposed actions would also diminish the perception of recreating in an area free from human development, since permanent structures would remain inside wilderness. However, the increased ability to manage wildlife populations would have the potential to increase wildlife viewing and hunting opportunities throughout the planning area.

From Visual Resource Management

Impacts would be similar to those described for Alternative A.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Developing a recreation management plan to determine resource indicators that would guide such decisions would help create clear guidelines for management decisions, thereby enhancing the ability to retain critical physical, social, and managerial settings of specified areas

Putting limits on human activities affecting areas of use, group size, duration of stay, number of people or vehicles, or types of activities would enhance the ability to manage for critical social settings of specified areas, and would increase natural quiet and solitude associated with primitive recreation. The proposed actions would limit visitor's freedom of choice, and would likely result in visitor displacement to other areas or zones. There would, however, be a decrease in visitor conflict and competition for favorite/desirable sites that would be anticipated in conjunction with increased use in the planning area. Overall, the impacts from proposed actions in this alternative would be similar to those described for alternative A. However, under this alternative management actions would be tailored to site-specific conditions and based on standards developed through activity level plans.

Developing campgrounds when other management tools prove ineffective would increase the potential for a wider range of recreational opportunities, thereby providing for an increased range of visitors. There would also be the potential for a localized decrease in natural quiet and solitude associated with primitive recreation, and also to diminish the perception of recreating in an area free from human development. However, by concentrating impacts to developed areas, widespread camping related impacts would be reduced, which would contribute to the retention or

restoration of the undisturbed character of other areas.

Requiring all facilities to be unobtrusive and aesthetically compatible with the area's setting would enhance the perception of recreating in an area free from human development.

Developing boardwalks or fencing around hot spring attraction areas would have the potential to diminish the perception of recreating in an area free from human development. However, the proposed action would also improve visitor safety, and contribute to the preservation of rare resources for enjoyment by future generations.

Implementing a permit system in areas where resources or the visitor experience is being impacted, would decrease visitor conflict and competition for favorite/desirable sites as a result of increased use, and would contribute to increased natural quiet and solitude associated with primitive recreation. However, the proposed action would lead to a decrease in spontaneity and unconfined recreation. There would also be an increased potential for visitor displacement to other areas inside and outside of the planning area. However, under this alternative, negative impacts to visitors would be minimized, since actions would be tailored to specific areas through an adaptive management approach.

Encouraging the development of privately operated campgrounds would have the potential to increase natural quiet and solitude associated with primitive recreation by distributing use away from attraction areas. The proposed action would also increase the potential for a wider range of recreational opportunities, thereby providing for an increased range of visitors.

Limiting the collection of rock, minerals, and invertebrate fossils to 25 pounds per day, plus one piece with a maximum collection of 250 pounds per year, and requiring a permit would contribute to the protection of rare resources for enjoyment by future generations. Imposing collection limits and requiring a permit would restrict opportunities for collection, which would decrease visitor's freedom and spontaneity, and could lead to increased displacement of users who traditionally collect large quantities. Impacts to visitors would be reduced under this alternative, when compared to A, since collection would still be allowed.

The ability to construct, relocate or close trails to mitigate human caused impacts would have

direct and indirect impacts to the visitor experience. There would be the potential to decrease natural quiet and solitude associated with primitive recreation by encouraging use on developed trails, and the perception of recreating in an area free from human development would be diminished. However, the increased trail opportunities would provide for an increased range of visitors. Opportunities for discovery and exploration would also be increased, and increased resource protection would enhance the perception of recreating in an area free from human caused impacts.

The ability to develop trails to separate user-types and routing the Desert Trail through portions of the NCA would also enhance the ability to reduce conflict between users types, and increase available trail opportunities. Some of the negative impacts from trail use could also be reduced by imposing limits on times and location of use.

Prohibiting camping within ½ mile of designated campsites would restrict visitor's freedom of choice in camping location, and may increase competition for desirable sites. However, widespread camping related impacts, due to campsite proliferation, would be minimized. Reduced impacts would improve naturalness in heavily used areas, contributing to the protection or restoration of the primitive character.

Limiting camping to designated sites in portions of High Rock Canyon ACEC outside of Wilderness, Soldier Meadows ACEC, Class A and B historic trail segments, dune and hummock areas associated with the playa, and rustic portions of the Lahontan cutthroat trout area would restrict certain recreational activities in desirable and traditionally used areas. Visitor's freedom of choice would be restricted, with an increased potential for visitor displacement. The increased protection of rare resources and sensitive wildlife species would enhance opportunities for enjoyment by future generations. Reduced camping related impacts would contribute to the perception of recreating in an area free from human disturbance. Closing impacted sites would likely increase competition for campsites in light of increased visitation. However, competition for day-use of attraction areas would be decreased through strategic campsite location.

The development of a comprehensive permit process would enhance the ability to manage for resource and visitor experience. The proposed actions would limit the number, location, or scale of

permitted recreation activities. The development of permit limitations would have long-term impacts to dispersed users and permittees. These limitations would help to retain or restore the natural quiet and solitude associated with primitive recreation in light of higher demand and visitation. There is also potential to increase public access in areas where events are taking place. There would likely be decreased freedom of choice, and increased competition for event location. Certain types of events that require large areas of public closure would be restricted. The current evaluation process would allow for a greater range of permitted activities, which would provide opportunities for a greater range of visitors. Spontaneity in permit applications would be increased with improved efficiency of the evaluation process. Overall impacts to permittees would be reduced under this alternative, when compared with Alternative A, since areas, times, and numbers of events permitted would be expanded. The same would be conversely true for dispersed recreation users.

From Public Outreach and Visitor Services Management

Expanding public awareness programs, continuing use of the visitor contact trailer, maintaining an information kiosk in Gerlach, and introducing low-impact recreation principles through volunteers and staff, would have long-term direct and indirect benefits to the visitor experience. These interpretive and educational actions would lead to an increase visitor's sense of appreciation and understanding of area resources, as well as visitor's awareness of important and sensitive values. Increased recreation opportunities would be available through on-the-ground programs and any additional interpretive exhibits. Indirect benefits would stem from a decrease in inadvertent impacts of visitor use, which would enhance the ability to manage for critical physical, social, and managerial settings of specified areas. Visitor safety would also be enhanced.

The creation of a visitor center for the NCA would have similar impacts as those listed above, but outreach capabilities would be enhanced by having a facility located along a major travel corridor. Providing information to visitors before they reach the planning area would also enhance visitor safety.

Developing cooperative partnerships, and encouraging academic and public research would have similar impacts as those listed above. These proposed actions would also enhance management opportunities as a result of greater resources.

Using a variety of outreach approaches, including on-the-ground interpretive exhibits, maps and brochures, scenic pullouts, and site identification signs would have similar impacts to the visitor experience as those listed above. The use of an adaptive management plan would reduce unnecessary developments and allow site specific planning. Concentrating developments in Front Country zones would help to retain the critical environmental settings of specified areas within the NCA.

4.2.3.20 Impacts on Social and Economic Conditions

Impacts on Recreation

This Alternative proposes a Public Outreach and Visitor Services program that is designed to encourage, accommodate, and facilitate recreation, but not to the degree or level of effort envisaged for Alternative C. This Alternative stresses conservation of the area's resources and values for which the NCA was created, while recognizing recreation as a legitimate public use. Opportunities and priorities for scientific research and educational opportunities are also emphasized, consistent with the NCA legislation.

Recreation growth for the No Action Alternative and Alternative A was estimated at approximately 19 percent, based on US Forest Service studies for their Renewable Resources Planning Act. Appropriate to a reduced emphasis on recreation, and in keeping with a stronger conservation ethic, this Alternative postulates a mid-range growth in recreation of 35 percent, which appears to have reasonable potential in view of the 50 percent growth deriving from a "designation effect" hypothesis for Alternative C.

A 35 percent increase in recreation in the year 2020 would result in a total of 86,134 visitor days for dispersed recreation. Special Recreation Permit events would add another 91,208 visitor days, for a total of 177,342 visitor days. This compares to a

total visitor day estimate of 187,045 for Alternative C which projects 50 percent growth.

Recreation expenditures for this level of visitation are estimated at \$5.4 million, \$2.9 million for residents, and \$2.5 million for non-residents. Based on analysis utilizing multipliers derived from an IMPLAN model for Washoe County, these total expenditures would generate \$2.7 million in direct income and directly create or sustain a total of 122.8 jobs (2000 hour FTE). Non-resident expenditures, which bring in new money in exchange for “exported” recreation, and contribute to expansion of the regional economy, would be responsible for \$1.2 million of the \$2.7 million total in direct income, and produce 59.6 jobs. The total direct, indirect, and induced effect of these expenditures, as they circulate through the economy, would result in 154.2 jobs and \$3.65 million in income (all estimates are in 2001 dollars).

Willingness-to-Pay value is estimated at \$2.4 million. This represents the value, or “worth,” of the recreation experience to the recreationist.

Construction of a visitor center along a major access corridor to the NCA, as proposed in this Alternative, would provide local employment for a construction contractor and crew, which would be a short-term economic benefit to the local area. The operation of a full-time Visitor Center would create one or two permanent full-time jobs, employing locally hired attendants with a salary in the range of \$15-20,000 each.

As mentioned in the No Action Alternative, as all types of recreation participation increase in the planning area, some deterioration and degradation of resources conditions may be expected. This would increase management costs for resource maintenance and protection – to a degree greater than the No Action Alternative and Alternative A, but less than Alternative C.

Impacts on Minerals and Energy

Locatable Minerals

Impacts would be the same as those described for the Alternative A.

Leasable Minerals

Impacts would be the same as those described for the Alternative A.

Salable Minerals

Impacts would be the same as those described for the Alternative A.

Impacts on Lands and Realty

Impacts would be the same as those described for Alternative A.

Impacts on Road Maintenance and Repair

Impacts for BLM road maintenance and repair would be as described in Alternative A, but with increased costs resulting from the increase in recreation visitation and associated vehicle traffic. Roads are much more likely to be more heavily used, barriers more likely to be circumvented, and vandalism to signs might be expected to occur more frequently without adequate law enforcement presence. Maintenance and repair of roads, particularly Soldier Meadows road, would probably be required with greater frequency resulting from increased vehicle traffic.

Pershing County currently maintains no roads in the area, so is not expected to be affected. A heavier traffic burden on the portion of Soldier Meadows road through Humboldt County would probably necessitate higher maintenance and repair costs to Humboldt County. Washoe County would probably experience more traffic on its 5.6 miles of roads in the planning area, but access roads in the vicinity of Gerlach would be much more heavily used.

Impacts on Law Enforcement and Court Costs

Impacts would be similar to those discussed in the No Action Alternative, but potentially increased by higher recreation visitation. There would potentially be a need for increased BLM law enforcement presence.

The Sheriff's Office for all three counties could find that the need for their services in the area would increase with increased recreation visitation. Though recreationists do not, in general, create law enforcement problems, such things as vehicle accidents could potentially occur with greater frequency.

Any potential increase in costs for law enforcement, housing of prisoners, or court costs for Pershing County cannot be estimated with the data available.

Impacts on Search and Rescue Operations

Search and rescue operations could increase, as well, along with increased recreation visitation. With more people recreating in the NCA, personal injuries requiring assistance could occur. However, no specific impacts are identified or expected. Certainly nothing would occur that would unduly tax the very fine search and rescue capabilities of the Washoe County Sheriff's Office.

Impacts on Indigent Aid

Impacts would be the same as those described for the No Action Alternative.

4.2.4 ALTERNATIVE C

(Emphasis on Visitation and Interpretation)

In addition to the impacts from the common to all actions as indicated in the No Action Alternative discussion (Section 4.2.1), the following impacts would also occur as a result of Alternative C.

4.2.4.1 Impacts on Transportation and OHV

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would generally be similar to those described for Alternative B, except for those associated with the following actions.

Upgrading Stevens Camp, High Rock Lake, Grassy road, and Sulfur Jackson Road to local road-level 3 and Road 37002--High Rock from a trail to a road with Maintenance level 2 would improve the drivability and safety of about 75 miles of BLM roads due to decreased rutting, washboards, dust or mud holes. Public access would also increase by enabling a wider range of vehicles to access the High Rock Lake, Massacre Mountain and Jackson Mountain areas for longer periods of time. However, traffic could also increase and costs to BLM could increase in the short-term associated with upgrades. In the long-term, maintenance costs would decrease because higher standard roads require less frequent maintenance.

Public access would decrease on 346,191 acres designated for limited OHV use. This impact would be similar to those described for the No Action Alternative because only about 16 miles of existing vehicle route would be closed.

From Cultural Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Impacts would be similar to those described for Alternative B.

From Special Designation Management

No impacts are anticipated, no areas are recommended for special designation.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Impacts would be similar to those described for Alternative A.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Unlimited playa closures not to exceed two consecutive days or 48 total hours within a 30-day period would continue to create temporary decreased public access, however, for a shorter duration that may occur under the No Action Alternative.

From Public Outreach and Visitor Services Management

This alternative anticipates the largest increase in visitor use, which could diminish the drivability and safety of BLM roads due to increased rutting, washboards, dust or mud holes caused by increased traffic volumes. In addition, costs to BLM and to a lesser degree to the State and Counties would increase because more frequent road maintenance would be required.

Establishing a visitor center and administrative facility in or near the NCA would also diminish the drivability and safety of BLM roads and increase costs to BLM and to a lesser degree to the State and Counties associated with increased vehicle traffic.

4.2.4.2 Impacts on Cultural Resources

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Impacts would generally be similar to those described for Alternative B, except for those associated with the following actions.

Upgrading Stevens Camp, High Rock Lake, Grassy road, and Sulfur Jackson Road to local road-level 3 and Road 37002--High Rock from a trail to a road with Maintenance level 2 would increase potential for inadvertent damage to cultural resources and increase the opportunity for vandalism and looting.

Designating 346,191 acres as limited and 751,879 acres as closed to OHV use would provide

more protection than the No Action Alternative, however, it would be less than Alternative A and B.

From Cultural Resource Management

Managing cultural resources as to site types would improve site protection and increase opportunities for historic preservation awareness and site preservation.

Emphasizing site interpretation and scientific discovery would enhance opportunities for scientific study and public use of cultural resources, opportunities for historic preservation awareness and site preservation, knowledge of the prehistory and history of the region, and opportunity for collection of data useful in overall cultural resource management. Indirectly, the integrity of cultural resources would be protected and the emigrant trails setting would be maintained or improved. Inadvertent damage or disturbance to cultural sites and vandalism and looting may also be reduced.

From Native American Values Management

Impacts would be similar to those described for Alternative A. There is the potential for conflict between Native Americans and archaeologists over site excavation and interpretation.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Impacts would generally be similar to those described for Alternative B. There might be conflicts between wilderness values and cultural resources in Natural Emphasis managed Wilderness Areas since Natural Emphasis management would require the removal of alterations and influences of human origin.

From Special Designation Management

Removing ACEC designations would increase inadvertent damage to cultural resources and opportunity for vandalism and looting.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Excluding the Stanley Camp Pasture within the Soldier Meadows Allotment from grazing would improve protection or site stability and decrease inadvertent damage to cultural resources.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Allowing wildland fire and prescribed fire outside wild emphasis Wilderness Areas to meet vegetation objectives would increase inadvertent damage to cultural resources, decrease integrity of cultural resources, and increase opportunity for vandalism and looting.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

Impacts would be similar to those described for Alternative A.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Issuing rights-of-way for buried and aboveground facilities in the Rustic Zone, within non-playa portions of the Front Country Zone, and in support of geothermal leasing in the south playa would increase inadvertent damage or disturbance to cultural sites and the opportunity for vandalism and looting. Integrity of cultural resources and the setting of the emigrant trails would also be impaired.

From Minerals and Energy Management

Impacts would generally be similar to those described for Alternatives A and B; however, leaving the South Playa Area open to the 1970 Geothermal Steam Act only would increase inadvertent damage or disturbance to cultural sites and opportunity for vandalism and looting.

Integrity of cultural resources and the setting of the emigrant trails would also be impaired.

From Recreation Management

Applying visitor restrictions, such as camping limits, activity restrictions, trail development or permit system implementation, if resource damage occurs from recreation activities would prevent or alleviate inadvertent damage to cultural resources and improve site protection. As a result of these measures to increase resource protection, cultural resource integrity would be maintained and the emigrant trails' setting would be maintained or improved.

Applying camping restrictions, such as allowing dispersed camping throughout the zone except within one-half mile of designated campsites, applying restrictions if resource damage occurs, and closing dune and hummock areas on the playa to camping, would also protect cultural resources from inadvertent damage, vandalism and looting, maintain the integrity of cultural resources and their setting, and create opportunities for cultural appreciation and discovery in the long-term.

Not applying limits on group size or length of stay, except as provided in existing regulations would increase inadvertent damage to cultural resources and the opportunity for vandalism and looting.

From Public Outreach and Visitor Services Management

This alternative anticipates the largest increase in visitor use, which could increase inadvertent damage, vandalism and looting.

Establishing a visitor center and administrative facility in or near the NCA could indirectly increase opportunities for historic preservation awareness and site preservation and knowledge of the prehistory and history of the region. Indirectly, the increased knowledge and appreciation of cultural resources should lead to greater preservation of cultural resources.

4.2.4.3 Impacts on Native American Values

From Land Health Standards

Impacts would be the same as those described under Alternative A.

From Transportation and OHV Management

Impacts would generally be similar to those described for Alternative B, except for those associated with the following actions.

Upgrading Stevens Camp, High Rock Lake, Grassy road, and Sulfur Jackson Road to local road-level 3 could decrease integrity of cultural resources.

Designating 346,191 acres as limited and 751,879 acres as closed to OHV use would provide more protection than the No Action Alternative, however, it would be less than Alternative A and B.

From Cultural Resource Management

Emphasizing site interpretation and scientific discovery may result in conflicts between archaeologists and Native Americans over recovery of scientific values. Site interpretation could educate visitors and increase appreciation of Native American values and decrease conflicts. Indirectly, integrity of PCRI could be improved, inadvertent impacts to these values would decrease, and the opportunity to pursue traditional uses would be preserved.

From Native American Values Management

Impacts would be similar to those described for Alternative A.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Wild Emphasis Wilderness Area management could potentially decrease integrity of PCRI and conflict with the pursuit of traditional practices in these areas.

From Special Designation Management

Removing ACEC designations would increase inadvertent damage to PCRI.

From Vegetation Management

Impacts would be similar to those described for Alternatives A and B.

From Livestock Grazing Management

Excluding the Stanley Camp Pasture within the Soldier Meadows Allotment from grazing would preserve the opportunity to pursue traditional uses.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Allowing wildfire and prescribed fire outside of wild emphasis Wilderness to meet vegetation objectives would decrease integrity of PCRI in the short-term, but preserve the opportunity to pursue traditional uses in the long-term.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

Impacts would be similar to those described for Alternative A.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Issuing rights-of-way for buried and aboveground facilities in the Rustic Zone, within non-playa portions of the Front Country Zone, and in support of geothermal leasing in the south playa could decrease the integrity PCRI.

From Minerals and Energy Management

Impacts would be similar to those described for Alternative A.

From Recreation Management

Applying visitor restrictions, such as camping limits, activity restrictions in areas, trail development or implementing a permit system, if resource damage occurs from recreation activities would prevent or alleviate inadvertent damage or disturbance to PCRI. As a result of these measures to increase resource protection, integrity of PCRI and the setting of other important Native American locations would also be improved in the long-term.

Applying camping restrictions, such as allowing dispersed camping throughout the zone except within one-half mile of designated campsites, applying restrictions if resource damage occurs, and closing dune and hummock areas on the playa to camping, would also protect PCRI from inadvertent damage and improve or maintain the integrity of their setting.

Not applying limits on group size or length of stay, except as provided in existing regulations, could increase conflicts between Native American users and recreationists.

From Public Outreach and Visitor Services Management

This alternative anticipates the largest increase in visitor use, which could increase conflicts between Native Americans seeking to practice traditional uses and recreationists.

Establishing a visitor center and administrative facility in or near the NCA would educate users and increase appreciation of Native American values and traditional uses. With increased knowledge and appreciation, inadvertent impacts to these values and uses may decrease.

4.2.4.4 Impacts on Paleontological Resources

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Impacts would generally be similar to those described for Alternative B, except for those associated with the following actions.

Upgrading Stevens Camp, High Rock Lake, Grassy road, and Sulfur Jackson Road to local road-level 3 would increase fossil theft, breakage, and displacement and vandalism, alteration, and erosion of sites.

Closing 16 miles and limiting 475 miles to OHV use would provide more protection than the No Action Alternative, however, it would be less than Alternatives A and B.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

Managing paleontological sites as to site types with an emphasis on scientific research would improve opportunities to identify priorities for site management and site preservation, and reduce the risk of inadvertent damage to important sites. As a result, fossil theft, breakage, and displacement and vandalism, alteration, and erosion of sites would diminish, and scientific inquiry and public use and appreciation of paleontological resources would increase.

Allowing collection of petrified wood and common invertebrate fossils throughout the planning area would increase the risk of inadvertent damage to important sites. Restricting collection in the Hanging Rock Petrified Forest to permitted scientific purposes could result in conflicts with rock hounds used to collecting petrified wood in that area.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Removing the ACEC designations could increase the risk of inadvertent damage to important sites, and increase fossil theft, breakage, and

displacement and increase the potential for vandalism, alteration, and erosion of sites.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

Impacts would be similar to those described for the No Action Alternative.

From Fish and Wildlife Management

No impacts are anticipated.

From Visual Resource Management

No impacts are anticipated.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

Continuing to designate the two existing utility corridors for buried and aboveground facilities, particularly the corridor south of the railroad, could increase the risk of inadvertent damage to important sites, and increase fossil theft, breakage, and displacement and increase the potential for vandalism, alteration, and erosion of sites.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Impacts would be similar to those described for Alternative B.

From Public Outreach and Visitor Services Management

This alternative anticipates the largest increase in visitor use, which could increase the risk of inadvertent damage to important sites, and increase potential fossil theft, breakage, and displacement and increase the potential for vandalism, alteration, and erosion of sites.

Establishing a visitor center and administrative facility in or near the NCA would educate users and increase appreciation of paleontological resources and decrease conflicts, inadvertent impacts, and willful damage to paleontological resources.

4.2.4.5 Impacts on Wilderness

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would be similar to those described for the No Action Alternative.

From Cultural Resource Management

Emphasizing site interpretation and scientific discovery may temporarily disturb natural emphasis wilderness characteristics, however, these activities would be short-term and occur within limited areas.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Wilderness Management

Impacts would generally be similar to those described for Alternative B; however, naturalness of unit 2 would be reduced due to lack a designation to allow for a developed campground.

From Special Designation Management

No impacts are anticipated.

From Vegetation Management

Impacts would generally be similar to those described for Alternatives A and B; however, allowing vegetation treatments if it is the minimum required action for the management of Wilderness could maintain or enhance naturalness in the NE Wilderness. Solitude may be decreased in the short-term during project implementation.

From Livestock Grazing Management

Impacts would be similar to those described for Alternative A.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Allowing wildland fire to play a more natural role on 598,715 acres of Category B lands and providing opportunities for prescribed fire in natural emphasis wilderness could increase naturalness where fire is desired and the risks associated with invasive species are low.

From Fish and Wildlife Management

Allowing animal damage control in Natural Emphasis wilderness areas could decrease naturalness, and opportunities for solitude and primitive recreation in those areas. Maintaining the six existing small game wildlife water developments and constructing new developments in NE Wilderness Areas could decrease naturalness and solitude in the immediate vicinity of those projects. These man-made structures in the wilderness would be a constant reminder of the human manipulation in the area, and would reduce naturalness. During maintenance and new construction, solitude would be reduced temporarily in the immediate area.

Removing the eight existing small game wildlife water developments in wild emphasis Wilderness Areas would enhance the wilderness values of those areas. Not allowing the construction of new wildlife water developments could maintain the naturalness of the areas, but may also hinder the ability of management to correct human caused impacts on native wildlife.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Impacts would generally be similar to those described for Alternative A; however, allowing saleable minerals to be sold or developed in the wilderness vehicle access roads outside the NCA could potentially impact wilderness values in the adjacent Wilderness Areas.

From Recreation Management

Restricting uses that are causing resource impacts would maintain naturalness, and opportunities for solitude and primitive recreation.

Allowing collection of rocks, minerals and common invertebrate fossils with limits would reduce the impacts associated with unlimited collection. Allowing even limited collection may slightly diminish special features and naturalness.

Designating the Desert Trail Corridor through the natural emphasis Wilderness Areas would allow more people to access and enjoy those Wilderness Areas, which could increase opportunities for primitive recreation. Increased visitor use could also decrease naturalness in the vicinity of the trail corridor.

Allowing dispersed camping and not applying group size limits may enhance primitive recreation, but could decrease solitude as visitation increases.

From Public Outreach and Visitor Services Management

Visitors' sense of appreciation and understanding of wilderness values would be directly impacted by management actions for public outreach and visitor services. More interpretive opportunities would be available.

Developing a visitor center within or near the NCA would enhance primitive recreation

opportunities by providing the greatest amount of resource and safety information.

4.2.4.6 Impacts on Special Designations

4.2.4.6.1 ACECs

From Land Health Standards

Impacts would be to the same as Alternative A.

From Transportation and OHV Management

Improvements of High Rock Lake Road to standards capable of providing access for a much wider range of vehicles could increase disturbance of habitats for the desert dace, spring snails, and basalt cinquefoil, the scenic and primitive qualities of the High Rock area, and nesting raptors and lambing bighorn sheep by facilitating increased visitor use.

Upgrading the Stevens Camp and Grassy Roads to local level 3, adjusting the functional or maintenance class of roads to adapt to visitor use, and improving access where public roads cross private property would lead to increased visitor use and associated disturbance, and could also diminish the primitive character of the High Rock area and associated emigrant trail segments.

Leaving vehicle routes within the Soldier Meadows ACEC open to OHV use would maintain existing damage on or near habitat for the desert dace, spring snails, and basalt.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Removing the ACEC designations in the High Rock Canyon and Soldier Meadows areas would also remove some of the protection of these sensitive areas and potentially increase disturbance to the values for which they were designated. Specifically vehicle routes adjacent to sensitive habitats in the Soldier Meadows area would remain open to motorized use. However implementation of the Soldier Meadows Activity Plan would provide for the installation of physical barriers to prevent driving on habitats immediately adjacent to streams, which would reduce impacts on desert dace and spring snail habitats. OHV use would continue to occur on less than an acre of basalt cinquefoil habitat.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those described for the No Action Alternative.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Impacts would be similar to those described for the No Action Alternative.

From Fish and Wildlife Management

Impacts would be similar to those described for the No Action Alternative.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

Impacts would be similar to those described for Alternative B.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for Alternative B.

4.2.4.6.2 Wild and Scenic Rivers

From Land Health Standards

Impacts would be similar to those described for the Alternative A.

From Transportation and OHV Management

Impacts would be similar to those described for Alternative B.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

The nine acquired parcels in the WSA also contain segments of Mahogany and Summer Camp Creeks; therefore, managing the parcels as WSAs would also protect the values associated with those streams. The 100-foot offset from centerline of routes in Unit 1 would continue to allow users to camp in or near the riparian area of Mahogany Creek and would allow impacts associated with that camping to continue. Not adding Unit 2 to the WSA would leave about .5 miles of Mahogany and Summer Camp Creeks open to more impacts than if they were added to the WSA.

From Special Designation Management

Impacts occurring from recreational and grazing use would continue in the High Rock Canyon and Soldier Meadows areas by removing the ACEC designations.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative.

From Livestock Grazing Management

Impacts would generally be similar to those described for Alternative A; however, if grazing was determined acceptable in the Stanley Camp Pasture within the Soldier Meadows Allotment, it could impact the outstandingly remarkable values of Mahogany, Summer Camp, and Snow Creeks.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Impacts would generally be similar to those described for Alternative B; in addition, designating portions of High Rock Canyon ACEC outside of

Wilderness, Soldier Meadows ACEC, Class A and B historic trail segments, and rustic portions of the Lahontan cutthroat trout area as day-use only would decrease disturbance of stream segments and reduce impacts to riparian areas from camping.

From Public Outreach and Visitor Services Management

Impacts would generally be similar to those described for Alternative B; however, the most public outreach would occur under this alternative, which could reduce impacts to outstandingly remarkable values even more. The increased outreach could also increase visitation, which could also have more of an impact on the outstandingly remarkable values.

4.2.4.7 Impacts on Vegetation

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would be generally similar to those described for Alternative B; upgrade of maintenance levels on road Stevens Camp, High Rock and Sulfur Jackson would be same as Alt B. However, upgrades to Grassy and High Rock Lake would lead to the spread of noxious weeds by increasing vehicle traffic and the types of vehicles using these roads in the High Rock Lake Basin and the Stevens Camp area.

Designating 346,191 acres as limited to OHV use on 475 miles of designated roads and vehicle routes would reduce vegetation impact associated with vehicle use similar to those described for Alternative B.

From Cultural Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Impacts would be similar to those described for Alternative B; however, the potential development of a campground could result in loss of vegetation and compaction on no more than an acre associated with the campground site in the Lahontan cutthroat trout Wilderness Study Area. This loss of vegetation could be offset due to decreased camping in primitive, dispersed campsites.

From Special Designation Management

Impacts occurring from recreational and grazing use would continue in the High Rock Canyon and Soldier Meadows areas by removing the ACEC designations.

From Vegetation Management

Impacts would be similar to those described for Alternatives A and B.

From Livestock Grazing Management

Impacts would be similar to those described for Alternative A. The Stanley Camp Pasture would be available for limited grazing in support of the recovery of the Lahontan Cutthroat trout, but the impacts on vegetation of this limited grazing would be similar to no grazing.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Impacts similar to those described for Alternative A, additionally using wildland fire and prescribed fire outside of Wilderness on a site-specific basis to accomplish localized small-scale projects consistent with the vegetation objectives and in natural emphasis Wilderness Areas could potentially improve species composition, productivity, structure of upland and riparian plant communities on fewer acres than No Action because implementation of mechanical treatments

are more difficult to implement than prescribed burning.

Not using prescribed fire in wild emphasis Wilderness Areas would maintain species composition, productivity, and structure of upland and riparian plant communities even where species composition does not meet desired conditions.

From Fish and Wildlife Management

Impacts would be similar to those described for Alternative B.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Impacts would generally be similar to those described for the No Action Alternative. Leaving the South Playa open to geothermal leasing would not have impacts since the playa is un-vegetated.

From Recreation Management

Impacts would be similar to those described for the No Action Alternative.

From Public Outreach and Visitor Services Management

Impacts would generally be similar to those described for Alternative B. However, implementation of more onsite interpretive facilities and location of a visitor within the NCA could lead an additional acre or less having vegetation removed or impacted by vehicles. The proactive approach to prevent resource impacts could potentially decrease human related impacts to vegetation.

4.2.4.8 Impacts on Livestock Grazing

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Changing the functional classification or maintenance levels of BLM System roads or designated routes as discussed in this alternative would have impacts similar to those described for Alternative B.

Attempting to acquire public access easements or to develop road alignments that avoid private property would have impacts similar to those described for Alternative B.

Development of public access on the east side of the Black Rock Range would have impacts similar to those described for Alternative B.

Designation of transportation routes and OHV classes under this alternative would have impacts similar to those described for the No Action Alternative because only about 16 miles of road are being closed.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

No impacts are anticipated, since ACEC designations are removed.

From Vegetation Management

Vegetation management actions under this alternative would have impacts similar to those described for Alternative A.

From Livestock Grazing Management

In addition to the impacts from Alternative A, permitting limited grazing within the Stanley Camp Pasture under a grazing prescription consistent with recovery of the Lahontan cutthroat trout would potentially provide additional flexibility to one livestock operator by increasing the area available for livestock grazing.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

Impacts would be similar to those described for Alternative B, allowing animal damage control to be conducted only in Natural Emphasis Wilderness would maintain the opportunity to remove predators causing losses of livestock in six of the ten wilderness areas.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Water resource management actions under this alternative would have similar impacts to the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

Visitor outreach actions under this alternative would have the potential to increase vandalism to livestock related projects, increase livestock loss, and increase operational expenses of livestock operators due to outreach activities that lead to increase visitor use.

4.2.4.9 Impacts on Wild Horses and Burros

From Land Health Standards

Impacts would be the same as Alternative A.

From Transportation and OHV Management

In addition to the impacts in No Action, changing BLM system roads or designated routes in functional classification or maintenance levels following an evaluation of vehicle use and resource issues could increase human contact with wild horses and burros and thereby potentially increase animal harassment and theft by increasing the number and types of vehicles able to access High Rock Canyon area.

Closing 16 miles of vehicle route to OHV use could decrease human contact with wild horses and burros, resulting in decreased animal harassment and potential theft of wild horses and burros.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

No impacts are anticipated, since ACEC designations would be removed.

From Vegetation Management

Impacts would be similar to those discussed for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those discussed for the No Action Alternative.

From Wild Horse and Burro Management

Constructing a permanent facility to support wild horse and burro management by providing opportunities for low cost horse gathers and adoptions by the public would increase public awareness and appreciation of wild horses and burros.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Impacts would be the same as the No Action Alternative.

From Visual Resource Management

No impacts are anticipated.

From Water Resource Management

Impacts would be the same as the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

This alternative contains the most public outreach activities. Increased public knowledge may indirectly lead to more adoptions and protection and appreciation of wild horses and burros.

4.2.4.10 Impacts on Fire Management

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would be similar to those described for Alternative B but only about 16 miles of vehicle route would be closed. Additionally improvements in the High Rock Lake, Grassy and Sulphur-Jackson roads would increase the effectiveness of fire protection to the High Rock Canyon area by upgrading road condition. Additionally, there is an increase in the potential for human-caused fires due to increase visitor access by upgrading road conditions.

This alternative would also be similar to those described for No Action because only a few miles of very low standard road would be closed.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Prescribed burning in wilderness areas to manipulate vegetation to benefit other resources would change the fuel loading a few hundred acres in 6 of the 10 wilderness areas and have little affect on wildland fire size, intensity and indirectly fire suppression efforts.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Impacts similar to those described for Alternative A would occur from vegetation

management actions, but prescribed fire would be allowed in 6 of the 10 wilderness areas.

From Livestock Grazing Management

Impacts would be similar to those discussed for the No Action Alternative.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

Impacts similar to those described for Alternative A, additionally wildland fire and prescribed fire outside of Wilderness Areas could be used to manipulate the woody and herbaceous species to meet vegetation objectives.

Prescribed fire could be applied in the 6 Natural Emphasis wilderness areas, as noted above in Vegetation Management. No prescribed fire would be applied in Wild Emphasis wilderness areas.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

The public outreach and visitor services actions for this alternative are extensive and a visitor center would be constructed. This could increase the potential for human-caused fires due to

increased visitation; however, this could be mitigated through presentation of an effective fire prevention message as part of the outreach efforts.

4.2.4.11 Impacts on Fish and Wildlife

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would be similar to those described for Alternative B, upgrading the High Rock Lake and Grassy Roads to Maintenance level 3 would potentially increase erosion and sedimentation of aquatic habitat and increase the chance of wildlife being disturbed or harassed by increasing vehicle traffic and types of vehicles able to access both ends of High Rock Canyon. As a result, sage-grouse and bighorn sheep habitats in the High Rock area may be degraded and populations reduced as a result.

Limiting 346,191 acres to OHV use on designated roads and vehicle routes could decrease erosion and sedimentation of aquatic habitat adjacent to 16 miles of closed route.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Impacts would be similar to those described for Alternative B.

From Special Designation Management

Removing the High Rock Canyon ACEC designation may increase the chance of potential loss of wildlife habitat, increased disturbance of

wildlife, and potentially reduced populations due to increased human use in the area.

Removing the Soldier Meadows ACEC designation is not anticipated to have impacts, because the management recommendations contained in the SMAP and recreation management actions would provide protection for fish and wildlife.

From Vegetation Management

Impacts from vegetation management would be the same as those for Alternative A, because most of the actions are the same. In addition, allowing vegetation treatments, including prescribed fire, in Natural Emphasis Wilderness Areas would restore native vegetation communities on a few hundred acres in those wilderness areas and enhance wildlife habitat and species viability.

From Livestock Grazing Management

Impacts would be similar to those described for the No Action Alternative. In addition, the requirement for specific grazing prescription in the Stanley Camp Pasture within the Soldier Meadows Allotment would minimize disturbance to wildlife from livestock grazing.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Impacts would be similar to those described for Alternative A, using wildland fire and prescribed fire everywhere except wild emphasis Wilderness Areas to meet vegetation objectives would maintain habitat conditions on areas where wildlife species would benefit from changes in vegetation composition, structure and production.

Not using prescribed fire in Wild Emphasis Wilderness Areas would maintain habitat conditions on areas where wildlife species would benefit from changes in vegetation composition, structure and production.

From Fish and Wildlife Management

Impacts would be similar to those described for Alternative A.

Allowing animal damage control in Natural Emphasis Wilderness Areas to protect threatened and endangered species and prevent the transmission of disease to other wildlife or humans may lead to decreased predator populations and increased prey species production.

Not allowing animal damage control in Wild Emphasis Wilderness Areas would potentially decrease the chance of predators being disturbed or harassed and reduce species viability of populations being affected by predation above normal rates. Predator populations in the area of control would increase, but populations of prey species would decrease.

Not maintaining existing wildlife water developments or constructing new water developments in Wild Emphasis Wilderness Areas and removing developments as they become non-functional would reduce wildlife populations in the immediate area of removed projects. This would affect mobile species on about 10,000 acres and non-mobile species on about 1,000 acres.

Constructing new water developments within wilderness near High Rock Canyon to provide water during bighorn sheep lambing would enhance species viability by allowing bighorn sheep access to low disturbance habitats during dry portions of year, and decrease the chance of bighorn sheep being disturbed or harassed.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

Impacts would be similar to those described for those discussed for the No Action Alternative.

From Recreation Management

Although recreation management actions in Alternative C are somewhat less restrictive than Alternatives A and B, restricting recreation use as

needed to protect resources would result in the same impacts.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for Alternative B.

4.2.4.12 Impacts on Special Status Species

4.2.4.12.1 Plants

There would be no impact to special status plant species except basalt cinquefoil as discussed for the No Action Alternative.

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

Impacts would be similar to those described for the No Action Alternative, since roads would not be relocated in Soldier Meadows area.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

No impacts are anticipated.

From Special Designation Management

No impacts are anticipated from removing the Soldier Meadows ACEC designation, since basalt cinquefoil habitat would be managed under the guidance of the Bureau policy on protection of special status species, Land Health Standards and decisions contained in this plan related to recreation management.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Impacts would be the same as those discussed for the No Action Alternative.

From Visual Resource Management

No impacts are anticipated.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

No impacts are anticipated.

From Recreation Management

Applying limits on human activities, constructing facilities around hot springs, or implementing a permit system if resource impacts are occurring would potentially improve basalt cinquefoil habitat and increase their populations. If restrictions implemented include information about protection of basalt cinquefoil, increased visitor awareness could indirectly decrease inadvertent disturbance.

Designating the Soldier Meadows area as day-use only would protect basalt cinquefoil from recreational activities.

From Public Outreach and Visitor Services Management

Using a proactive approach to prevent resource impacts, provide interpretation and public safety would increase visitor awareness, which could indirectly decrease inadvertent disturbance.

4.2.4.12.2 Fish and Wildlife

There are no known impacts to black tern, least bittern, and white-faced ibis because of the lack of wetlands and actions affecting those areas.

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

No impacts are anticipated from transportation maintenance and functional classes because considerations of special status species are required before actions could be implemented as part of Land Health Standards.

Limiting 346,191 acres to OHV use on designated roads and vehicle routes would close 16 miles of vehicle routes, which would decrease disturbance and have little impact on special status species habitats.

Upgrading the High Rock Lake and Grassy Roads to Maintenance level 3 would potentially increase the chance of bighorn being disturbed or harassed by increasing vehicle traffic and types of vehicles able to access both ends of High Rock Canyon.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Impacts would be similar to those described for Alternative B.

From Special Designation Management

Removing the High Rock Canyon ACEC designation may increase the chance of potential loss of bighorn sheep habitat, increased disturbance of bighorn sheep, and potentially reduced bighorn sheep populations due to increased human use in the area displacing sheep from prime habitats during lambing.

Removing the Soldier Meadows ACEC designation is not anticipated to have impacts, because the management recommendations contained in the SMAP and recreation management actions would provide protection for desert dace and spring snail populations.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those described for Alternative B.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

Impacts would be similar to those described for Alternative A.

From Fish and Wildlife Management

Impacts would be similar to those described for Alternative A.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

Impacts would be similar to those described for Alternative B.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for Alternative B.

4.2.4.13 Impacts on Visual Resources

From Land Health Standards

Impacts would be similar to those discussed for Alternative A.

From Transportation and OHV Management

Impacts would be similar to those described for Alternative B.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Impacts would be similar to those described for Alternative B.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Impacts would be similar to those discussed for the No Action Alternative.

From Livestock Grazing Management

Impacts would be similar to those discussed for the No Action Alternative.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Allowing wildland fire and prescribed fire within the planning area, except for Wild Emphasis Wilderness Areas to meet vegetation objectives would decrease visibility temporarily during implementation, but would enhance the viewshed and natural setting of historic trails in the long-term.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Impacts would be similar to those described for Alternative A.

From Water Resource Management

No impacts are anticipated.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Withdrawing federal lands within the South Playa Area, the Lahontan cutthroat trout area, and vehicle access routes outside the NCA would protect visual resources from impacts to visual resources that could have been caused by surface disturbance and infrastructure development associated with mining in these areas.

Continuing to leave the South Playa open to geothermal development could result in visually obtrusive development that may affect the viewshed and primitive setting in this part of the planning area.

From Recreation Management

Applying visitor restrictions if resource damage occurs and designating sensitive areas, including portions of ACECs, historic trail

segments, and the Lahontan cutthroat trout area as day-use only would alleviate surface disturbance and damage to vegetation where restrictions are applied, potentially improving viewsheds within these areas.

Encouraging the development of privately operated campgrounds on public lands outside of the NCA and on private lands both inside and outside of the NCA boundary could diminish the quality of the viewshed in these areas depending on the level of development that takes place. However, potentially displacing camping to lands outside the NCA may reduce the level of surface disturbance and vegetation damage within the planning area.

Restricting Class III and IV events to a designated area of the Front Country to reduce disturbances to vegetation, soils, and riparian zones would protect visual resources.

From Public Outreach and Visitor Services Management

Using a proactive approach to prevent resource impacts would increase public appreciation and awareness, which could indirectly lead to increased protection of planning area resources and consequently visual quality.

4.2.4.14 Impacts on Water Resources

From Land Health Standards

Impacts would be similar to those discussed for Alternative A.

From Transportation and OHV Management

This alternative provides for the largest number of “open” roads and the greatest potential for vehicular access, which would lead to increased soil erosion and stream sedimentation and decreased hydrological function.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Area Management

Adding 9 of the 10 parcels within the Lahontan cutthroat trout WSA that were acquired and inventoried for wilderness characteristics to the WSA would decrease vehicular traffic and other uses in these areas, thereby reducing soil erosion and stream sedimentation. This impact would not be as extensive as Alternatives A or B due to the exclusion of one parcel from the WSA.

Excluding existing designated routes as well as the portions of the main Barlett Butte BLM system road #2052, the Summer Camp route, the Idaho Canyon Route and the route into Wood Canyon from the Lahontan cutthroat trout WSA could increase vehicular traffic within and immediately outside the WSA, resulting in increased soil erosion and stream sedimentation.

From Special Designation Management

Removing the ACEC designations would reduce protection of water resources. However, the day-use only designations and SMAP would provide some protection.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative; however, the management actions under this alternative would reduce soil erosion and stream sedimentation over a greater area than the No Action Alternative.

From Livestock Grazing Management

Impacts would be the same as the No Action Alternative.

From Wild Horse and Burro Management

Impacts would be the same as the No Action Alternative.

From Fire Management

Current conditions would be maintained.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Impacts would be the same as the No Action Alternative.

From Lands and Realty Management

Impacts would be the same as the No Action Alternative.

From Minerals and Energy Management

Withdrawing federal lands from mineral development within the South Playa Area, the Lahontan cutthroat trout area, and vehicle access routes outside the NCA would reduce potential water contamination and could reduce soil erosion and stream sedimentation, leading to increased hydrologic function.

Potential development of geothermal resources within the South Playa Area would result in increased potential for contamination of water resources and could increase soil erosion and stream sedimentation within this area.

From Recreation Management

This alternative is the least restrictive regarding camping location, duration and group size, which could lead to increased soil erosion and stream sedimentation and decreased hydrologic function.

From Public Outreach and Visitor Services Management

The increased public outreach and visitor services proposed under this alternative could increase public appreciation for the values of the planning area and thereby decrease human-related impacts (e.g., erosion, sedimentation and contamination) to water resources.

4.2.4.15 Impacts on Lands and Realty

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Current conditions would be maintained.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Designating two utility corridors that encompass existing buried and aboveground utilities would have similar impacts to the No Action Alternative.

Issuing rights-of-way for buried and aboveground facilities in the Rustic Zone and within non-playa portions of the Front Country Zone and in the south playa portion of the planning area would have similar impacts to the No Action Alternative.

From Minerals and Energy Management

Current conditions would be maintained.

From Recreation Management

Encouraging the development of privately operated campgrounds on public lands outside of the NCA and on private lands both inside and outside of the NCA boundary would have impacts similar to those described for Alternative A.

From Public Outreach and Visitor Services Management

No impacts are anticipated.

4.2.4.16 Impacts on Minerals and Energy

From Land Health Standards

No impacts are anticipated.

From Transportation and OHV Management

Current conditions would be maintained.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Current conditions would be maintained.

From Special Designation Management

No impacts are anticipated.

From Vegetation Management

No impacts are anticipated.

From Livestock Grazing Management

No impacts are anticipated.

From Wild Horse and Burro Management

No impacts are anticipated.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Designating the South Playa and two utility corridors as VRM Class III and the remaining portions of the planning area (excluding the Wilderness Area and the WSA) as VRM Class II would have similar impacts to Alternative A.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Designating two utility corridors that encompass existing corridors for buried and aboveground utilities would have similar impacts to the No Action Alternative.

Issuing rights-of-way for buried and aboveground facilities in the Rustic Zone and within non-playa portions of the Front Country Zone would have similar impacts to the No Action Alternative.

Granting rights-of-way in the south playa portion of the planning area, in support of geothermal leasing would have similar impacts to the granting of rights of way for all minerals as discussed in the No Action Alternative.

From Minerals and Energy Management

Subject to the terms of existing leases, the withdrawal of federal lands within the South Playa Area, the Lahontan cutthroat trout area, and vehicle access routes outside the NCA would decrease

opportunities for development and increase the cost of development

Leaving the South Playa Area open only to the 1970 Geothermal Steam Act would retain opportunities for some types of development and decrease the cost of any potential development.

From Recreation Management

No impacts are anticipated.

From Public Outreach and Visitor Services Management

No impacts are anticipated.

4.2.4.17 Impacts on Air Quality

From Land Health Standards

Current conditions would be maintained.

From Transportation and OHV Management

Upgrading BLM System roads or changing designated routes under this alternative would provide for the greatest level of access within the planning area, therefore would result in increased vehicular fugitive dust emissions.

As in Alternative B, providing greater public access on the east side of the Black Rock Range would result in potentially greater vehicular traffic throughout that area and potentially greater fugitive dust emissions.

From Cultural Resource Management

No impacts are anticipated.

From Native American Values Management

No impacts are anticipated.

From Paleontological Resource Management

No impacts are anticipated.

From Wilderness Management

Current conditions would be maintained.

From Special Designation Management

Current conditions would be maintained.

From Vegetation Management

Current conditions would be maintained.

From Livestock Grazing Management

Current conditions would be maintained.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Wildland fire and prescribed fire techniques used throughout the planning area would lead to more frequent, periodic increases in smoke and decreased visibility.

Short-term and periodic increases in smoke, airborne particulate matter, and decreased visibility would occur from implementing prescribed fire in the natural emphasis Wilderness Areas and the remainder of the non-Wilderness planning area.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

No impacts are anticipated.

From Minerals and Energy Management

Impacts would be similar to those described for the No Action Alternative.

From Recreation Management

Implementing visitor restrictions, such as group size or camping restrictions, where resource damage is occurring and designating sensitive areas as day-use only may indirectly decrease fugitive dust from recreation activities.

Impacts from Class III and IV events would be similar to those described for the No Action Alternative, since management actions are similar.

From Public Outreach and Visitor Services Management

No impacts are anticipated.

4.2.4.18 Impacts on Soils

From Land Health Standards

Impacts would be similar to those described for Alternative A.

From Transportation and OHV Management

The opening of additional roads and high potential visitor access under this alternative could result in the greatest effect to soil stability and productivity by increasing soil disturbance, compaction, and erosion.

From Cultural Resource Management

Current conditions would be maintained.

From Native American Values Management

Current conditions would be maintained.

From Paleontological Resource Management

Current conditions would be maintained.

From Wilderness Area Management

Increased vehicle traffic in sensitive areas would lead to increased soil disturbance, compaction, and erosion.

From Special Designation Management

Impacts would be similar to those described for the No Action Alternative.

From Vegetation Management

Impacts would be similar to those described for Alternative A.

From Livestock Grazing Management

Impacts would be similar to those described for impacts from Land Health Standards.

From Wild Horse and Burro Management

Current conditions would be maintained.

From Fire Management

Impacts would be similar to those described for the No Action Alternative.

From Fish and Wildlife Management

Current conditions would be maintained.

From Visual Resource Management

Current conditions would be maintained.

From Water Resource Management

Current conditions would be maintained.

From Lands and Realty Management

Impacts would be similar to those described for the No Action Alternative.

From Minerals and Energy Management

Impacts would be similar to those described for Alternative A. In addition, potential development of geothermal resources in the South Playa Area would result in increased potential for soil disturbance, compaction, and erosion.

From Recreation Management

As the least restrictive alternative for limitations on location, duration, and group size of camping and other activities, increased impacts would result from increased soil disturbance, compaction, and erosion.

From Public Outreach and Visitor Services Management

Impacts would be similar to those described for the No Action Alternative.

4.2.4.19 Impacts on Recreation

From Land Health Standards

Current conditions would be maintained.

From Transportation and OHV Management

Impacts would generally be similar to those described for Alternative B, except for those associated with the following actions.

Upgrading Stevens Camp, High Rock Lake, Grassy road, and Sulfur Jackson Road to local road-level 3 would increase public access throughout the planning area, providing opportunities for a wider range of visitors. The potential for increased traffic along these routes could result in a decrease of natural quiet and solitude associated with primitive recreation. Public access would also increase by enabling a wider range of vehicles to access the High Rock Lake, Massacre Mountain and Jackson Mountain areas for longer periods of time.

Using an adaptive management approach to assign BLM System roads or designated routes a functional classification or maintenance level would enhance the ability to manage certain areas for critical environmental settings. Unwarranted management actions that would negatively impact the visitor experience would be avoided.

Public access through and across the planning area would be enhanced by developing travel corridors on the east side of the Black Rock Range from Humboldt County Road 214, north-south access to Black Rock Point and east-west access to BLM Road 2051 (Pahute Meadow Road), and by acquiring public access easements or developing road alignments in areas where public roads cross private property. Recreation opportunities would also be expanded as a result of improved access. However, some areas that currently received minimal use may experience increased visitation resulting in the loss of solitude and natural quiet.

Designating 346,191 acres as limited to designated roads would restrict the freedom for cross-country travel and reduce conflicts between motorized and non-motorized users. Within this area, 536 miles of routes would be designated as available for vehicle use, which would make more routes available for vehicle use than in Alternatives A and B. Since visitor-use data indicates that most multi-passenger vehicles are operated on the playa and existing roads, the OHV limitations proposed in this alternative are not expected to impact this segment of users. An extensive road system should off-set lost opportunities, but OHV users who enjoy cross-country travel would likely be displaced to areas outside of the planning area. Overall impacts to motorized users would be less when compared to alternative A.

Installation and maintenance of directional signs at intersections of BLM system, State, and County roads would reduce visitor confusion and

opportunities for self-discovery, and increase public safety.

Using an adaptive management approach to evaluate and implement alternative methods of providing location and directional information to visitors would reduce unnecessary signage that diminishes the perception of recreating in an environment free from human development. However, an approach of this type could initially result in visitor confusion, which could lead to unsafe conditions.

From Cultural Resource Management

Emphasizing site interpretation would increase awareness and appreciation of important resources and sensitive values. This emphasis would also provide for increased scientific discovery, which together would likely improve the ability to manage rare resources for future generations.

Encouraging scientific research into cultural resources, and having public participation in inventories, excavations and scientific analyses would increase awareness of important and sensitive values, and improve management opportunities through greater resources. The proposed action would also maximize opportunities for site interpretation and education.

From Native American Values Management

Managing Properties of Cultural and Religious Importance (PCRI) under the Traditional Use Category would enhance the preservation of rare resources for enjoyment of future generations. There would, however, be potential conflict between recreation users and traditional users.

From Paleontological Resource Management

Common invertebrates and petrified wood collection would be allowed, under the same terms as rock collection in the recreation section, except the Hanging Rock Petrified Forest would be closed to petrified wood and other fossil, rock, and mineral collection. The proposed action would limit visitor's freedom of choice and may cause displacement of a small population of visitors who use Hanging Rock Canyon. However, there would be increased protection of rare resources for the discovery by future generations.

Encouraging scientific research into paleontological resources and having public participation in inventories, digs and lab analyses, would increase awareness of important and sensitive values and improve management opportunities.

From Wilderness Management

Signing wilderness boundaries would help to increase visitor awareness of areas having important and sensitive values. A long-term increase in primitive character would be expected due to a reduction of motorized trespass and the creation of new ways in wilderness areas. These potential outcomes would enhance the perception of recreating in an area free from human development. A decrease in conflict between motorized and non-motorized users would also be expected.

Adding nine of the 10 acquired parcels within the Lahontan cutthroat trout WSA to the existing WSA, limiting vehicle access to BLM system roads and existing designated routes, as well as providing a one-hundred foot offset from the centerline of routes, would have long-term impacts to management and the visitor experience. Retaining the existing vehicle access routes would reduce the ability to manage the existing WSA for wilderness characteristics and important values associated with primitive recreation. Retaining these routes with a one hundred foot buffer, would maintain current opportunities associated with motorized travel and vehicle camping, which would provide for a similar range of visitors as under the No Action Alternative. Excluding one acquired parcel (Unit 2) of 145 acres from the WSA to allow for a developed campground to be constructed within the Lahontan cutthroat trout area would also enhance camping opportunities. It would also help to concentrate impacts to predetermined locations; thereby minimizing widespread camping related impacts that compromise the area's primitive character.

From Special Designation Management

Removing the ACEC designation from High Rock Canyon would likely enhance recreational opportunities. The impacts from this alternative are similar to those described for the No Action Alternative, but the existing closure period would be lifted, thereby providing for increased freedom

of choice and fewer restrictions. The wild and primitive character, which is important to primitive recreation and the emigrant experience, would be most threatened under this alternative.

From Vegetation Management

Impacts would be similar to those described for the No Action Alternative.

From Livestock Grazing Management

Current conditions would be maintained.

From Wild Horse and Burro Management

Impacts would be similar to those described for the No Action Alternative.

From Fire Management

No impacts are anticipated.

From Fish and Wildlife Management

Allowing water developments in Wild Emphasis Zones to deteriorate and be removed and restricting the development of new wildlife water developments would have the potential to enhance critical physical, social, and managerial settings of specified areas. Eliminating motorized activities associated with these activities would increase natural quiet and solitude associated with primitive recreation. The proposed actions would also enhance the perception of recreating in an area free from human development. However, the reduced ability to manage wildlife populations would have the potential to indirectly decrease wildlife viewing and hunting opportunities throughout the planning area.

Permitting the construction of new water developments or other wildlife related projects within Natural Emphasis wilderness near High Rock Canyon for bighorn lambing, would have the potential to diminish critical physical, social, and managerial settings of specified areas. Allowing motorized activities associated with these developments would increase natural quiet and solitude associated with primitive recreation. The proposed actions would also diminish the perception of recreating in an area free from human development, since permanent structures would remain inside wilderness. However, the increased ability to manage wildlife populations would have

the potential to increase wildlife viewing and hunting opportunities throughout the planning area.

From Visual Resource Management

Impacts would be similar to those described for Alternative A.

From Water Resource Management

Impacts would be similar to those described for the No Action Alternative.

From Lands and Realty Management

Current conditions would be maintained.

From Minerals and Energy Management

The primitive and undeveloped character of areas in the immediate vicinity and viewshed of minerals and energy operations would be directly impacted. Administering geothermal leases in the south playa could result in construction-related to the extraction of resources, which could also reduce public access to portions of the planning area.

From Recreation Management

Having no limits, other than designated sites, on human activities including group size, duration of stay, number of people or vehicles, or types of activities would reduce the ability to manage for critical social and physical settings of specified areas, and would likely decrease natural quiet and solitude associated with primitive recreation. The proposed actions would enhance visitor's freedom of choice, and would likely result in less visitor displacement to other areas or zones in the short-term, but displacement would still likely occur in the long-term as a result of an increase in visitor conflict and competition for favorite/desirable sites that would be anticipated in conjunction with an increase in use of the planning area. Overall the impacts from proposed actions in this alternative would be similar to those described for the No Action Alternative.

Developing campgrounds when other management tools prove ineffective would increase the potential for a wider range of recreating opportunities, thereby providing for an increased range of visitors. There would also be the potential for a localized decrease in natural quiet and solitude associated with primitive recreation, and also to

diminish the perception of recreating in an area free from human development. However, by concentrating impacts to developed areas, widespread camping related impacts would be reduced, which would contribute to the retention or restoration of the undisturbed character of other areas.

Developing boardwalks or fencing around hot spring attraction areas would have the potential to diminish the perception of recreating in an area free from human development. However, the proposed action would also improve visitor safety, and contribute to the preservation of rare resources for enjoyment by future generations.

Implementing a permit system in areas where resources or the visitor experience is being impacted would decrease visitor conflict and competition for favorite/desirable sites as a result of increased use, and would contribute to increased natural quiet and solitude associated with primitive recreation. However, the proposed action would lead to a decrease in spontaneity and unconfined recreation. There would also be an increased potential for visitor displacement to other areas inside and outside of the planning area.

Encouraging the development of privately operated campgrounds would have the potential to increase natural quiet and solitude associated with primitive recreation by distributing use. The proposed action would also increase the potential for a wider range of recreating opportunities, thereby providing for an increased range of visitors.

Limiting the collection of rock, minerals, and invertebrate fossils to 25 pounds per day, plus one piece with a maximum collection of 250 pounds per year would contribute to the protection of rare resources for enjoyment by future generations. However, by imposing limits on recreational collection opportunities would decrease visitor's freedom and spontaneity, and could lead to increased displacement of users who traditionally collect large quantities. Negative impacts to visitors would be reduced under this alternative, when compared to A and B, since collection would still be allowed without a permit.

The ability to construct, relocate or close trails to mitigate human caused impacts would have direct and indirect impacts to the visitor experience. There would be the potential to decrease natural quiet and solitude associated with primitive recreation by encouraging use on developed trails,

and the perception of recreating in an area free from human development would be diminished. However, the increased trail opportunities would provide for an increased range of visitors. Opportunities for discovery and exploration would also be increased, and increased resource protection would enhance the perception of recreating in an area free from human caused impacts.

The ability to develop trails to separate user-types, developing day-use and multi-day routes, and routing the Desert Trail through portions of the NCA would have impacts similar to those listed above. However, there would be an enhanced ability to reduce conflict between user types, and an increase in available trail opportunities. Some of the negative impacts from trail use could also be reduced by imposing limits on times and location of use.

Prohibiting dispersed camping within ½ mile of designated campsites would restrict visitor's freedom of choice in camping location, and may increase competition for desirable sites. However, widespread camping related impacts, due to campsite proliferation, would be minimized. Reduced impacts would improve naturalness in heavily used areas, contributing to the protection or restoration of the primitive character. Under this alternative, camping would be allowed in and among the dunes and hummocks, which would expand camping opportunities, but would reduce protection of resources.

Prohibiting camping in portions of High Rock Canyon ACEC outside of Wilderness, Class A and B historic trail segments, and limiting camping to designated sites in Rustic portions of the Lahontan cutthroat trout area and Soldier Meadows Front Country Zone would restrict certain recreational activities in desirable and traditionally used areas. Visitor's freedom of choice would be restricted, with an increased potential for visitor displacement. The increased protection of rare resources and sensitive wildlife species would enhance opportunities for enjoyment by future generations. Reduced camping related impacts would contribute to the perception of recreating in an area free from human disturbance. The overall loss of campsite locations would likely cause increased competition for campsites in light of increased visitation. However, increased access to adjacent lands and the possibility of developing new camping areas would limit overall impacts due to lost camping

opportunities. Competition for day-use of attraction areas would also be decreased.

Designating campsites in the Rustic and Front Country zones in areas of traditional camping use, and closing those with resource conflicts would have impacts to camping opportunities. While designating and closing sites would result in some loss to visitor's freedom of choice, the net loss of camping locations would be offset by the possibility of developing new primitive campgrounds. There would still be potential for visitor displacement to other areas due to loss of unconfined primitive camping opportunities. However, the improved ability to manage for human caused impacts, would decrease the amount of human disturbance to resources, and would further protect the primitive experience.

The development of a comprehensive permit process would enhance the ability to manage for resource and visitor experience. The proposed actions would not limit the number, location, or scale of permitted recreation activities. There long-term impacts to dispersed users and permittees would be unchanged. The ability to retain or restore the natural quiet and solitude associated with primitive recreation in light of higher demand and visitation would remain difficult, and public access in areas where events are taking place would be more limited. Freedom of choice for event location and type of activity would be retained, which would allow for a similar range of permitted activities as under No Action Alternative. Overall impacts to permittees would be reduced under this alternative, when compared with Alternative A and B, since areas, times, and numbers of events permitted would be expanded. The same would be conversely true for dispersed recreation users.

From Public Outreach and Visitor Services Management

Expanding public awareness programs, continuing use of the visitor contact trailer, maintaining an information kiosk in Gerlach, and introducing low-impact recreation principles through volunteers and staff, would have long-term direct and indirect benefits to the visitor experience. These interpretive and educational actions would lead to an increase in visitor's sense of appreciation and understanding of area resources, as well as visitor's awareness of important and sensitive

values. Increased recreation opportunities would be available through on-the-ground programs and any additional interpretive exhibits. Indirect benefits would stem from a decrease in inadvertent impacts of visitor use, which would enhance the ability to manage for critical physical, social, and managerial settings of specified areas. Visitor safety would also be enhanced.

The creation of a visitor center for the NCA would have similar impacts as those listed above, but outreach capabilities would be enhanced by having a facility located along a major travel corridor. Providing information to visitors before they reach the planning area would also enhance visitor safety. If the visitor center were developed within the planning area, it would also have the potential to diminish the undeveloped character of the area.

Developing cooperative partnerships and encouraging academic and public research would have similar impacts as those listed above. These proposed actions would also enhance management opportunities as a result of greater resources

Using a variety of outreach approaches, including on-the-ground interpretive exhibits, maps and brochures, scenic pullouts, site identification signs, and small interpretive centers at Steven's Camp, Soldier Meadows, Gerlach, or Flowing Wells would have similar impacts to the visitor experience as those listed above. The use of an adaptive management plan would reduce unnecessary developments and allow site specific planning. Concentrating developments in Front Country zones would help to retain the critical environmental settings of specified areas within the planning area. Overall impacts to the undeveloped character of the area would be increased relative to Alternative B.

4.2.4.20 Impacts on Social and Economic Conditions

Impacts on Recreation

This Alternative includes a Public Outreach and Visitor Services program that is designed to encourage, accommodate, and facilitate recreation. It outlines a proactive, aggressive effort that includes a visitor center and administrative facility,

cooperative partnerships, research programs, recreational support services, interpretive trails and tours, kiosks, maps, brochures, signage, interpretive centers, and self-guided tours with low-powered radio transmissions. Such an abundance of inducements and publicity would produce a strong public awareness and encourage visitation beyond what may reasonably be expected under any of the other Alternatives.

The much higher level of publicity that would follow this management approach might create a demand for recreation comparable to a "designation effect." As discussed in the No Action Alternative, a "designation effect" describes the sudden increase in visitation that occurs as a result of publicity surrounding the creation of a National Conservation Area or National Monument. The Black Rock/High Rock NCA has had some limited publicity and controversy regarding its designation, but nothing comparable to the level of publicity and public interest that was engendered for the Great Basin National Park in White Pine County, the Red Rock Canyon NCA in Las Vegas, or the Grand Staircase-Escalante National Monument in southern Utah.

In order to evaluate the potential for visitation that might occur as a result of increased publicity, visitation at these three somewhat comparable sites was examined. The Great Basin National Park was designated in 1986. It is comparable to the NCA in that it is in a remote location. However it includes the very popular Lehman Caves, and it does enjoy the prestige of National Park status and therefore draws upon a nationwide tourism and interest. In 1987, the year following designation, the Great Basin National Park enjoyed a 57 percent surge in visitation. This was clearly a "designation effect," as the visitation increases for the previous 5 years ranged from a plus 24 percent to a minus 6 percent. The following 5 years ranged from a plus 15.8 percent to a minus 7.5 percent.

Red Rock Canyon NCA, in Clark County, was designated in 1989. During the year of its designation, visitation was reported as increasing by 28 percent, from 584,578 visitors to 749,630. The following two years, visitation increased by 25 percent and 22 percent. However, the Visitor Center, which maintains more accurate records, and is a popular stop, lists visitation as increasing by 46 percent for 1989. This compares with annual average increases in visitation in the range of 11 – 13 percent.

The Grand Staircase-Escalante National Monument was designated in 1996, with 1997 being its first full year of operation. Recreation visitation increased by 51.7 percent in 1997, which was followed by increases of only 7.7 percent and 3.4 percent in the two succeeding years.

There are many differences in all of these sites, and much argument could be sustained about their comparability. Nevertheless, a pattern of “designation effect” on the order of 50 percent seems to emerge. As such, a hypothesis of 50 percent growth for the Black Rock/High Rock NCA, by the year 2020, appears to be possible and reasonable under this Alternative.

This level of growth in visitation would result in a total of 95,703 visitor days, not including Special Recreation Permit events. SRP events would produce another 91,342 visitor days, for a total of 187,045 visitor days. This compares to a total visitor day estimate of 141,498 for the No Action Alternative which projects a 19 percent growth rate to be achieved in the year 2020.

Recreation expenditures for this level of visitation are estimated to reach \$5.8 million in the year 2020, \$3.1 million for residents, and \$2.7 million for non-residents. Based on analysis utilizing multipliers from an IMPLAN model for Washoe County, these total expenditures would generate \$2.8 million of that total in direct income and directly create or sustain a total of 130.2 jobs (2000 hour FTE). Non-resident expenditures, which bring in new money in exchange for “exported” recreation, and contribute to expansion of the regional economy, would produce \$1.3 million of the \$2.8 million total in direct income, and provide 60.4 jobs. The total direct, indirect, and induced effect of these expenditures, as they circulate through the economy, would result in 163.5 jobs and \$3.8 million in income (all estimates are in 2001 dollars).

Willingness-to-Pay value is estimated at \$2.7 million. This represents the value, or “worth,” of the recreation experience to the recreationist.

Construction of a visitor center and administrative facility in or near the NCA, as proposed in this Alternative, would provide local employment for a construction contractor and crew, which would be a short-term benefit to the local area. The operation of a full-time Visitor Center would create one or two permanent full-time jobs, employing locally hired attendants with a salary in

the range of \$15-20,000 each. The Administrative Facility would be utilized by existing BLM personnel, but some contracting for temporary part-time local hires could result.

As mentioned in the No Action Alternative, as all types of recreation participation increase in the planning area, some deterioration and degradation of resources conditions may be expected. This would increase management costs for resource maintenance and protection.

Impacts on Minerals and Energy

Locatable Minerals

Impacts would be the same as those described for Alternative A.

Leasable Minerals

Impacts would be similar to those described for the No Action Alternative with some additional costs for modifications to conform to VRM Class III standards.

Salable Minerals

Impacts would be the same as those described for the No Action Alternative.

Impacts on Lands and Realty

Impacts would be the same as those described for Alternative A.

Impacts on Road Maintenance and Repair

Impacts for BLM road maintenance and repair would be as described in Alternative B, but with even greater costs resulting from the increase in recreation visitation and associated vehicle traffic projected under any of the alternatives.

Impacts on the counties, as well, would be as described in Alternative B, but somewhat more severe due to increased visitation.

Impacts on Law Enforcement and Court Costs

Impacts under this Alternative would be the same as those as described for Alternative B.

Impacts on Search and Rescue Operations

Impacts under this Alternative would be the same as those as described for Alternative B.

Impacts on Indigent Aid

Impacts would be the same as those described for the No Action Alternative.



The following table provides a summary of the impacts on the environment and the community for the proposed project. The impacts are categorized by the type of resource affected and the nature of the impact. The table is organized into columns for the resource, the impact, and the mitigation measures. The impacts are described in detail, including the magnitude, duration, and frequency of the impacts. The mitigation measures are described in detail, including the type of measure, the timing, and the responsible party. The table is organized into columns for the resource, the impact, and the mitigation measures. The impacts are described in detail, including the magnitude, duration, and frequency of the impacts. The mitigation measures are described in detail, including the type of measure, the timing, and the responsible party.

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4.3 CUMULATIVE IMPACTS

Cumulative impacts are the effects on the environment that result from the impact of implementing any one of the alternatives in combination with other actions outside the scope of this plan, either within the planning area or outside it.

The Council on Environmental Quality regulations for implementing NEPA defines cumulative impacts as:

“...the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions regardless of what agency (Federal or Non-Federal) or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time” (40 CFR 1500-1508)

Cumulative impacts are discussed because the environmental conditions are the result of many different factors, acting together. The real effect of any single action cannot be determined by considering that action in isolation, but must be determined by considering the likely result of that action when acting in conjunction with many others. These involve determinations that are often complex, and are to some degree subjective.

The cumulative impacts discussion that follows considers the alternatives in the context of the broader human environment and specifically actions outside the scope and geographic area covered by the Resource Management Plan. It includes discussion of factors that have created the current environment, including actions from the NCA legislation that are constraints of this planning effort. These actions need to be assessed as past actions to be considered cumulatively with the alternatives of this document. It also includes a discussion of factors such as increased visitation to the planning area that could be expected to influence that environment in the future. Past, present and potential future actions that are

reasonably foreseeable over the life of the resource management plan for the planning area to be considered include:

- Designation of 751,844 acres in ten wilderness areas as part of the NCA legislation.
- Withdrawal of 1,188,583 acres from future mineral development within the NCA and wilderness areas
- Geothermal energy development: The Bureau of Land Management is currently considering the leasing and future development and construction of geothermal energy facilities for 43 pending lease sites, encompassing about 70,000 acres, outside the planning area in northwestern Nevada. Additionally several thousand acres of private land adjacent to the NCA is being considered for geothermal development. The potential exists for cumulative effects to be realized from the ground disturbance, production of air emissions, and physical presence of these facilities.
- Designation of additional Wilderness Areas: The potential designation by congress of eight additional wilderness areas (395,000 acres) to be managed in accordance with the Wilderness Act in the same region as the planning area has the potential to affect the quality and quantity of Wilderness values and opportunities for solitude and primitive recreation. Additional designations would also result in impacts on the future development of energy and minerals on these lands and would change the areas available for motorized recreational use.
- Increased visitation: Whether created as a result of the designation of the NCA or through visitation changes associated with regional population growth, increased visitation has the potential to negatively affect the natural environment, traffic, primitive values, wildlife habitat, Native American, and cultural resources.
- Improvement of Jungo Road: Potential increases in truck traffic and overall access by way of the 96 mile east-west corridor from Winnemucca to Gerlach has the potential to greatly increase traffic and access through the planning area as well as influence safety and

Wilderness values if the road is improved to a high quality gravel or paved road.

- Partnership between BLM and the Summit Lake Paiute Tribe for the development of an RV park and campground on Tribal lands.

Other potential future actions have been considered and eliminated from further consideration, as there is only a small likelihood of these actions being pursued and implemented within the life of the plan or because there is so little known about the potential action, that formulating an analysis of impacts is premature. Additionally, potential future actions that are protective of the environment (such as new potential threatened or endangered species listings or regulations related to fugitive dust emissions) have little likelihood of creating significant adverse environmental effects alone or in combination with this planning effort. Federal actions such as species listing would require BLM to reconsider the decisions created from this plan as the consultations and relative impacts may no longer be appropriate. These potential future actions may have greater capacity to affect the resource uses within the planning area, however, until more information is developed, no reasonable estimation of impacts could be developed.

Preparation of Environmental Impacts Statements for future Resource Management Plans (for the Winnemucca and Surprise Field Offices) will be required to consider the cumulative effects of the management action alternatives associated with those plans and the management actions decided on within this RMP.

Continued surface disturbing activities (i.e., grazing, wild horse and burros) are foreseeable actions anticipated for the planning area. Some management actions related to these uses have been considered within the range of the alternatives, but the continued existence of these activities is driven by the NCA legislation and will occur unless another legislative action intercedes. The potential cumulative impacts of these land uses are then inherent based on the intent of the Act and are not clearly identifiable as these uses are so historically connected to the condition of the land.

Data on the precise locations and overall extent of the resources within the planning area are considerable, however, it varies according to resource type and locale. Further, our

understanding of the impacts on and the interplay among these resources is evolving. As knowledge improves, management measures (adaptive or otherwise) would be considered to reduce potential cumulative impacts in accordance with law, regulations, and the final RMP for the planning area.

4.3.1 SUMMARY OF ALTERNATIVE IMPACTS AND CUMULATIVE IMPACTS

For each alternative, No Action, and A, B, and C, a summary of the overall impacts for that alternative is provided below. Following the summary is the cumulative impacts for the alternative incorporating the impacts associated with other past, present and foreseeable future actions.

4.3.1.1 No Action Alternative

Summary of Impacts from the No Action Alternative

Managing BLM roads to their designated functional and maintenance class and maintaining seasonal closures would improve drivability and safety of roads, and decrease erosion and stream sedimentation. However, improved drivability and minimal visitor restrictions could increase competition among visitors. Improved road maintenance and access to the planning area and acquisition of private lands would improve public access. However, actions to protect the historic trail, primitive viewshed, sage-grouse habitats, and water sources may diminish drivability and public access.

Important values within the ACECs may be diminished in the long-term from managing BLM roads to their designated functional and maintenance class, maintaining large areas open to unrestricted OHV use, and increased visitation. Implementing Rangeland Health Standards for livestock grazing, seasonal road closures, and segregation of the LCT area from mineral

development would maintain or improve important values within the ACECs and outstandingly remarkable values of stream segments eligible for designation as Wild and Scenic Rivers.

Signing wilderness boundaries and withdrawing areas from mineral development would maintain special features and wilderness characteristics. Naturalness and special features would be enhanced by actions to support native vegetation and wildlife, gathering excess wild horses and burros, and not grazing sensitive areas. Actions to improve habitat or vegetation with man-made structures and mineral development activities could impact the wilderness values in those areas.

Inadvertent damage or disturbance to cultural, Native American, and paleontological resources could be increased from improving access to the planning area, vegetation rehabilitation projects, continued grazing, and fire management activities. Actions to support native vegetation and wildlife would retain opportunities for the pursuit of traditional Native American uses. Maintaining seasonal closures, ACEC designations, and VRM designations could improve cultural resources, areas important to Native Americans, and paleontological site protection. Maintaining large areas open to unrestricted OHV use, minimal recreational restrictions, and utility and mineral development would continue to conflict with Native American values and cultural and paleontological resource protection.

Areas historically available for grazing would be maintained and structural rangeland projects would be retained in support of ongoing livestock operations. Implementing Rangeland Health Standards, improving vegetation communities, continued implementation of livestock grazing management, and current fire management would improve vegetation communities and visual quality. Vegetation rehabilitation activities, fire management, rights-of-way, and mineral development would diminish visual quality and the natural and primitive setting.

Actions to improve vegetation, retaining HMAs, and achieving AML would benefit wild horses and enhance their genetic viability. Implementation of water quality objectives may decrease AMLs for wild horses and burros.

Fire management actions and control of noxious weeds would reduce the size of fires.

Continuing to not graze some areas would increase fuel loads in those areas.

Values related to areas of special designation, water quality, and wildlife habitat would be supported by acquiring adjacent private lands, implementation of actions to support native vegetation and wildlife, fire management activities, gathering excess wild horses and burros, limiting grazing within sensitive areas, and adapting recreational restrictions if resource damage occurs. Protection of historic trail segments, water quality objectives, mineral development, and camping restrictions would decrease public access, freedom of choice, and displace some users. Vehicle use and overnight camping would continue to disturb fish and wildlife, basalt cinquefoil, special status fish and wildlife species, and their habitats.

Surface disturbing activities livestock grazing, mineral development, visitation, dispersed recreation, maintaining areas of unrestricted OHV use, and development within existing utility corridors could increase soil erosion and sedimentation of some water resources. Maintaining BLM system roads and vegetation manipulation projects would continue to improve soil stability.

Cumulative Impacts from the No Action Alternative

The No Action Alternative has the potential to affect the following resources and resource uses when combined with the effect of the other actions beyond the scope of this plan: air quality, vegetation, soils, recreation, wilderness, transportation, social and economic conditions, water resources, and visual quality.

Surface disturbing activities including potential geothermal development near the planning area and livestock and wild horse and burro grazing in the region, mineral development, increased levels of visitation, maintaining areas of unrestricted OHV use, and development within utility corridors would increase vegetation damage, decrease soil productivity, and increase sedimentation of nearby water resources. Potential geothermal development near the planning area and existing geothermal leases in the South Playa would create periodic increases fugitive dust and emissions from construction, traffic, and operations. Vegetation damage and decreased soil productivity would occur from geothermal development and mineral

development in the south playa. Actions to protect the historic trail, primitive viewshed, sensitive wildlife habitats, and water sources could help offset any localized impacts that may occur. However, these impacts would not likely lead to a considerable cumulative effect, since these impacts would be contained to the immediate vicinity of the development.

Additional Wilderness Areas would collectively increase the availability and quality of primitive recreation as there would be less competition as visitation increases. In addition, wilderness characteristics could be enhanced overall from dispersed rather than concentrated visitor use. However, the designation of additional wilderness areas would decrease opportunities for motorized recreation and lands available for mineral and energy development.

Increased visitation would place a greater demand on planning area resources since current management allows minimal visitor restrictions. Important values, sensitive areas, and natural resources could require more management actions to alleviate damage from visitors, which could decrease the primitive environment and naturalness of the planning area and diminish visual quality. Additionally, socioeconomic conditions and opportunities would be enhanced for local Tribes based on tourism increases in Lovelock and Pyramid Lake. Enhanced economics effect would also occur as a result of developing an RV park and campground on Tribal Lands. This would provide additional income to the Tribe, and help regulate and control camping and visitation in the area of Summit Lake, thereby assisting in the protection of resources.

As visitation increases, the drivability and safety of roads could be diminished, placing a greater demand on BLM to maintain or improve the transportation system. Increased visitation would also stimulate the tourism industry in nearby local economies. The improvement of Jungo Road would cumulatively increase access, traffic, and visitor use, and associated resource damage within the planning area.

4.3.1.2 Alternative A

Summary of Impacts from Alternative A

Improved road maintenance and access to the planning area, and acquisition of private lands would improve public access. However, actions to protect the historic trail, primitive viewshed, sage-grouse habitats, and water sources may diminish drivability and public access. The management actions within Alternative A would lead to overall decreased public access and yet will in some instances increase the drivability and safety for visitors.

Inadvertent damage or disturbance to cultural, Native American, and paleontological resources could be increased from improving access to the planning area, vegetation rehabilitation projects, continued grazing, and fire management activities. Actions to support native vegetation and wildlife would retain opportunities for the pursuit of traditional Native American uses. Site conservation emphasis will act to enhance and protect cultural, paleontological, and Native American values, however, may in some instances limit public involvement with those values. Additionally, hydrologic function, soil productivity and remarkable values of streams would generally be improved by conservation or more restrictive management actions, except in areas of valid existing mineral rights.

Actions associated with this alternative would result in some decreases in recreational opportunities; however, solitude and primitive recreation and visual quality in much of the planning area would generally be enhanced overall.

Naturalness and special features would be enhanced by actions to support native vegetation and wildlife, gathering excess wild horses and burros, and not grazing sensitive areas. Actions to improve habitat or vegetation with man-made structures and mineral development activities could impact the wilderness values in those areas. Vegetation, transportation, and Wilderness management actions would all contribute to increased naturalness in Wilderness Areas. However, the lack of prescribed fire may contribute to a long-term decrease in naturalness of small portions of the Wilderness areas. Air quality would be generally maintained, however short term

localized smoke and reduced visibility would be experienced from prescribed fire outside of Wilderness Areas. Increases in fuel loads and decreased access for fire suppression would result from land health, transportation and Wilderness management activities.

Vegetation management and other management actions would generally support improvements to species composition.

Special status and wildlife populations would experience overall benefits from management actions associated with the natural process emphasis such as decreased disturbance to habitat and promotion of recovery for special status species.

Areas historically available for grazing would be maintained and structural rangeland projects would be retained in support of ongoing livestock operations. Livestock grazing and grazing operator flexibility would be maintained overall as some actions would lead to increased while others actions would reduce flexibility. Potential livestock losses could increase in Wilderness due to limitations on predator control. Wild horse and burro Herd Management Areas could be limited from use by actions associated with vegetation management and land health standards.

Actions to improve vegetation, retaining HMAs, and achieving AML would benefit wild horses and enhance their genetic viability. Implementation of water quality objectives may decrease AMLs for wild horses and burros.

Fire management actions and control of noxious weeds would reduce the size of fires. Vegetation rehabilitation activities, fire management, rights-of-way, and mineral development would diminish visual quality and the natural and primitive setting.

Values related to areas of special designation, water quality, and wildlife habitat would be supported by acquiring adjacent private lands, implementation of actions to support native vegetation and wildlife, fire management activities, gathering excess wild horses and burros, limiting grazing within sensitive areas, and adapting recreational restrictions if resource damage occurs. Protection of historic trail segments, water quality objectives, mineral development, and camping restrictions would decrease public access, freedom of choice, and displace some users.

Surface disturbing activities livestock grazing, mineral development, visitation, maintaining areas

of unrestricted OHV use, and development within existing utility corridors could increase soil erosion and sedimentation of some water resources. Maintaining BLM system roads and vegetation manipulation projects would continue to improve soil stability.

Cumulative Impacts from Alternative A

Alternative A has the potential to cumulatively affect the following resources and resource uses when combined with the effects of those other actions outside the scope of this plan: Wilderness, noxious weeds, visual resources, soils, air quality, and recreation.

Surface disturbing activities including potential geothermal development near the planning area and livestock and wild horse and burro grazing in the region, mineral development, increased levels of visitation, maintaining areas of unrestricted OHV use, and development within utility corridors common to all would increase vegetation damage, decrease soil productivity, and increase sedimentation of nearby water resources. Increases in the spread of noxious weeds and decreased soil productivity could occur from vegetation disturbance associated with geothermal development and in areas of valid existing rights in the planning area. This would not likely lead to a considerable cumulative effect as these activities would not occur in the same geographic areas. However, actions to protect the historic trail, primitive viewshed, sensitive wildlife habitats, and water sources could help offset any localized impacts that may occur.

Air quality effects from geothermal plant construction could also create a short-term cumulative effect in the region when considered with the potential increased fugitive dust associated with greater visitation/traffic to the planning area.

Decreased visual quality could occur in the planning area as a result of adjacent geothermal development activities and from transportation and recreation actions associated with Alternative A.

Additional designated Wilderness Areas would collectively increase the availability and quality of primitive recreation as there would be less competition as visitation increases. In addition, wilderness characteristics could be enhanced overall from dispersed rather than concentrated visitor use. However, the designation of additional

wilderness areas would decrease opportunities for motorized recreation and lands available for mineral and energy development.

As visitation increases, the drivability and safety of roads could be diminished, placing a greater demand on BLM to maintain and improve the transportation system. Increased visitation would also stimulate the tourism industry in nearby local economies, including Tribal. The improvement of Jungo Road would cumulatively increase access, traffic, and visitor use, and associated resource damage within the planning area.

4.3.1.3 Alternative B

Summary of Impacts from Alternative B

Improved road maintenance and access to the planning area, and acquisition of private lands would improve public access. However, actions to protect the historic trail, primitive viewshed, sage-grouse habitats, and water sources may diminish drivability and public access. The management actions within Alternative B would lead to some decreases in public access and increases in traffic on certain roads. However, increases in the drivability and safety for visitors would also result. Greater access to some areas and less restrictive actions associated with this alternative would generally result in increases in recreational opportunities, except where recreational activities would be restricted to prevent resource impacts.

Changes in access would locally improve and degrade fire fighter access within the planning area. A slight increase in human-caused fires would occur as visitor access increases. Greater public access to the Black Rock Range and prescribed fire activities could lead to localized and periodic increases in smoke and fugitive dust emissions.

Inadvertent damage or disturbance to cultural, Native American, and paleontological resources could be increased from improving access to the planning area, vegetation rehabilitation projects, continued grazing, and fire management activities. Actions to support native vegetation and wildlife would retain opportunities for the pursuit of traditional Native American uses. The response to change emphasis will act to protect cultural, paleontological, and Native American values and

still support public involvement and scientific study of the resources. Potential vandalism and inadvertent damage would be slightly increased. Hydrologic function and soil productivity would also generally be enhanced by management actions, except in localized areas of utility corridors.

Naturalness and special features would be enhanced by actions to support native vegetation and wildlife, gathering excess wild horses and burros, and not grazing sensitive areas. Actions to improve habitat or vegetation with man-made structures and mineral development activities could impact the wilderness values in those areas. Vegetation, fire and wildlife management activities could result in some limited reductions in solitude and naturalness. Other actions would benefit primitive recreation and increase opportunities for solitude. However, allowing only underground utilities and implementing visitor restrictions based on monitoring would result in protection of viewsheds in other areas. Management actions would also benefit the protection of remarkable values associated with Wild and Scenic status-eligible streams.

The slightly smaller ACECs under this alternative would experience overall benefits from management actions associated with the response-to-change emphasis such as decreased disturbance to habitat and promotion of recovery for special status species based on monitoring. Overall increased protection for habitat and potentially increased species populations would generally be achieved through adaptive management techniques, not the activity restrictions in other alternatives.

Limited vegetation could be lost due to camping, water developments, and visitor centers.

Fire management actions and control of noxious weeds would reduce the size of fires. Vegetation rehabilitation activities, fire management, rights-of-way, and mineral development would diminish visual quality and the natural and primitive setting.

Values related to areas of special designation, water quality, and wildlife habitat would be supported by acquiring adjacent private lands, implementation of actions to support native vegetation and wildlife, fire management activities, gathering excess wild horses and burros, limiting grazing within sensitive areas, and adapting recreational restrictions if resource damage occurs. Protection of historic trail segments, water quality

objectives, mineral development, and camping restrictions would decrease public access, freedom of choice, and displace some users.

Areas historically available for grazing would be maintained and structural rangeland projects would be retained in support of ongoing livestock operations. Grazing operator flexibility would generally be maintained as some actions would lead to improved flexibility while others actions would reduce flexibility, such as management of sage-grouse habitat. Decreased animal harassment and potential theft of wild horse and burro herds would result from closing areas to OHV use.

Actions to improve vegetation, retaining HMAs, and achieving AML would benefit wild horses and enhance their genetic viability. Implementation of water quality objectives may decrease AMLs for wild horses and burros.

Surface disturbing activities livestock grazing, mineral development, visitation, maintaining areas of unrestricted OHV use, and development within existing utility corridors could increase soil erosion and sedimentation of some water resources. Maintaining BLM system roads and vegetation manipulation projects would continue to improve soil stability.

Cumulative Impacts from Alternative B

Alternative B has to potential to cumulatively affect the following resources and resource uses when combined with the effects of those other actions outside the scope of this plan: transportation, Wilderness, Native American and cultural resources, vegetation, noxious weeds, visual resources, soils, air quality, and recreation.

Surface disturbing activities including potential geothermal development near the planning area and livestock and wild horse and burro grazing in the region, mineral development, increased levels of visitation, maintaining areas of unrestricted OHV use, and development within utility corridors would increase vegetation damage, decrease soil productivity, and increase sedimentation of nearby water resources. Increases in the spread of noxious weeds and decreased soil productivity could occur from vegetation disturbance associated with geothermal development and in areas of utility corridors and camping areas in the planning area. Actions to protect the historic trail, primitive viewshed, sensitive wildlife habitats, and water

sources could help offset any localized impacts that may occur. This would not likely lead to a considerable cumulative effect as these activities would not occur in the same geographic areas.

Additional Wilderness Areas would collectively increase the availability and quality of primitive recreation as there would be less competition as visitation increases. In addition, wilderness characteristics could be enhanced overall from dispersed rather than concentrated visitor use. However, the designation of additional wilderness areas would decrease opportunities for motorized recreation and lands available for mineral and energy development. Decreased visual quality could occur in the Calico Mountains and Black Rock Desert Wilderness Areas as a result of adjacent geothermal development activities.

Inadvertent disturbance to cultural and Native American resources could increase with increased visitation, geothermal development, and fewer public restrictions on resources associated with this Alternative.

As visitation increases, the drivability and safety of roads could be diminished, placing a greater demand on BLM to maintain and improve the transportation system. Increased visitation would also stimulate the tourism industry in nearby local economies, including Tribal. The improvement of Jungo Road would cumulatively increase access, traffic, and visitor use, and associated resource damage within the planning area. Traffic increases associated with greater visitation and the access improvements from upgrading the Jungo road could create additional fugitive dust from vehicles on unimproved roads and ways. Air emission increases from geothermal plant construction could also create a short-term cumulative effect in the region.

4.3.1.4 Alternative C

Summary of Impacts from Alternative C

Improved road maintenance and access to the planning area, and acquisition of private lands would improve public access. However, actions to protect the historic trail, primitive viewshed, sage-grouse habitats, and water sources may diminish drivability and public access. The management actions within Alternative C would lead to the

greatest level of public access, improved drivability, and safety for visitors and minimal visitor restrictions, which would enhance visitor use and provide for the greatest variety of recreational uses. However, primitive recreation and the perception of recreating in a natural environment may be diminished, as well as wilderness characteristics and ACEC and WSR values, fish and wildlife habitat, and inadvertent damage to sensitive habitats in the long-term.

Road improvements would increase the effectiveness of fire protection and fire response. Improved public access would increase fugitive dust emissions and use of prescribed fire would result in more frequent and periodic increases in smoke and decreased visibility.

Fire management actions and control of noxious weeds would reduce the size of fires. Vegetation rehabilitation activities, fire management, rights-of-way, and mineral development would diminish visual quality and the natural and primitive setting.

Naturalness and special features would be enhanced by actions to support native vegetation and wildlife, gathering excess wild horses and burros, and not grazing sensitive areas. Actions to improve habitat or vegetation with man-made structures and mineral development activities could impact the wilderness values in those areas. Vegetation damage, soil disturbance, compaction, and erosion would occur from minimal restrictions to recreational activities, grazing use, and increased public access, removal of ACEC designations, which could lead to increased erosion and stream sedimentation and decreased hydrologic function.

Inadvertent damage or disturbance to cultural, Native American, and paleontological resources could be increased from improving access to the planning area, vegetation rehabilitation projects, continued grazing, and fire management activities. Actions to support native vegetation and wildlife would retain opportunities for the pursuit of traditional Native American uses. Emphasis on public interpretation and scientific discovery would enhance or protect cultural resources, as would implementing visitor restrictions to prevent resource damage. However, inadvertent damage, vandalism, and looting may increase from improved public access, removal of ACEC designations.

Managing the nine acquired parcels in the LCT area as WSAs, designating sensitive areas as day-

use only, and public outreach activities would protect the outstandingly remarkable values of eligible stream segments. Wilderness characteristics would be enhanced by vegetation treatments, prescribed fire, removal of eight wildlife water developments, constructing trails, and fewer camping restrictions.

Areas historically available for grazing would be maintained and structural rangeland projects would be retained in support of ongoing livestock operations. Upgrading roads, increased public access, and increased visitation could lead to increase harassment and theft of wild horses and burros and vandalism to livestock related projects, livestock loss, and increased operational expenses. Appreciation and protection of wild horses and burros may increase from closing some areas to OHV use, constructing a permanent adoption facility, and public outreach activities.

Actions to improve vegetation, retaining HMAs, and achieving AML would benefit wild horses and enhance their genetic viability. Implementation of water quality objectives may decrease AMLs for wild horses and burros.

Values related to areas of special designation, water quality, and wildlife habitat would be supported by acquiring adjacent private lands, implementation of actions to support native vegetation and wildlife, fire management activities, gathering excess wild horses and burros, limiting grazing within sensitive areas, and adapting recreational restrictions if resource damage occurs. Protection of historic trail segments, water quality objectives, mineral development, and camping restrictions would decrease public access, freedom of choice, and displace some users.

Surface disturbing activities livestock grazing, mineral development, visitation, maintaining areas of unrestricted OHV use, and development within existing utility corridors could increase soil erosion and sedimentation of some water resources. Maintaining BLM system roads and vegetation manipulation projects would continue to improve soil stability.

Mineral development on vehicle access routes outside the NCA, leaving the South Playa open to geothermal development and encouraging development of privately owned campgrounds could result in visually obtrusive development, which may diminish characteristics within nearby Wilderness Areas.

Cumulative Impacts from Alternative C

Alternative C has the potential to cumulatively affect the following resources and resource uses when combined with the effects of the other actions beyond the scope of this plan: recreation, wilderness, social and economic conditions, transportation, vegetation, soils, water resources, visual quality, and air quality.

Surface disturbing activities including potential geothermal development near the planning area and livestock and wild horse and burro grazing in the region, mineral development, increased levels of visitation, maintaining areas of unrestricted OHV use, and development within utility corridors common to all would increase vegetation damage, decrease soil productivity, and increase sedimentation of nearby water resources. Potential geothermal development near the planning area would create increased fugitive dust emissions from construction, traffic, and operations, collectively with increased public access and visitation. Vegetation damage and decreased soil productivity would occur from geothermal development and mineral development in the planning area, however, these impacts would be contained to the immediate vicinity of the development. Actions to protect the historic trail, primitive viewshed, sensitive wildlife habitats, and water sources could help offset any localized impacts that may occur.

Additional Wilderness Areas would collectively increase the availability and quality of primitive recreation as there would be less competition as visitation increases. In addition, wilderness characteristics could be enhanced overall from dispersed rather than concentrated visitor use. However, the designation of additional wilderness areas would decrease opportunities for motorized recreation and lands available for mineral and energy development.

Increased visitation would place a greater demand on planning area resources since this alternative provides the most accessibility within the planning area. Important values, sensitive areas, and natural resources could require more management actions to alleviate damage from visitors, which could decrease the primitive environment and naturalness of the planning area. As visitation increases, the drivability and safety of roads could be diminished more frequently placing a greater demand on BLM to maintain and improve

the transportation system. Increased visitation would also stimulate the tourism industry in nearby local economies. Tribal communities would experience increased revenues and opportunities as a result of partnering with BLM for an RV park and campground, and increased tourism in Lovelock, and Pyramid Lake. The improvement of Jungo Road would cumulatively increase access, traffic, and visitor use, and associated resource damage within the planning area.

4.4 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The implementation of actions in accordance with the alternatives is not likely to result in significant impacts that may be characterized as irreversible and irretrievable commitments. However, some small-scale disruption to resources may occur, which in turn may prove to be long-term or permanent. These are most likely associated with ground disturbance from development at valid existing mineral claims and visitor center development inside the planning area.

4.5 UNAVOIDABLE ADVERSE IMPACTS

Increased visitation and recreational use of the planning area in addition to other ground disturbing activities will negatively affect the natural environment, traffic, primitive values, wildlife habitat, and cultural resources. The management actions associated with the alternatives have been developed to respond to these impacts and be protective of the resources while allowing the land use to be as diverse as possible.

4.6 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES AND LONG-TERM PRODUCTIVITY

As described in the introduction to this chapter, short-term is defined as anticipated to occur within 1 to 5 years of implementation of the activity. Long-term is defined as following the first 5 years of implementation but within the life of the Resource Management Plan (RMP) (projected to be 20 years).

The proposed action would result in various short-term effects; such as increased localized soil erosion and fugitive dust emissions as well as decreased visual resource quality. However, the long-term productivity of resources within the planning area would not be diminished, as these short-term uses would be minimized by management actions to effect the reverse change over the long-term. For instance, vegetation manipulation projects may increase ground disturbance over the short-term in localized areas and create additional dust emissions, however, improved vegetative quality and soil productivity would be the net long-term result of the action.

Overall, while there would be some disturbance to resources, the adaptive management approach of the preferred alternative would serve to protect the long-term productivity of the land, resources, and resource uses.

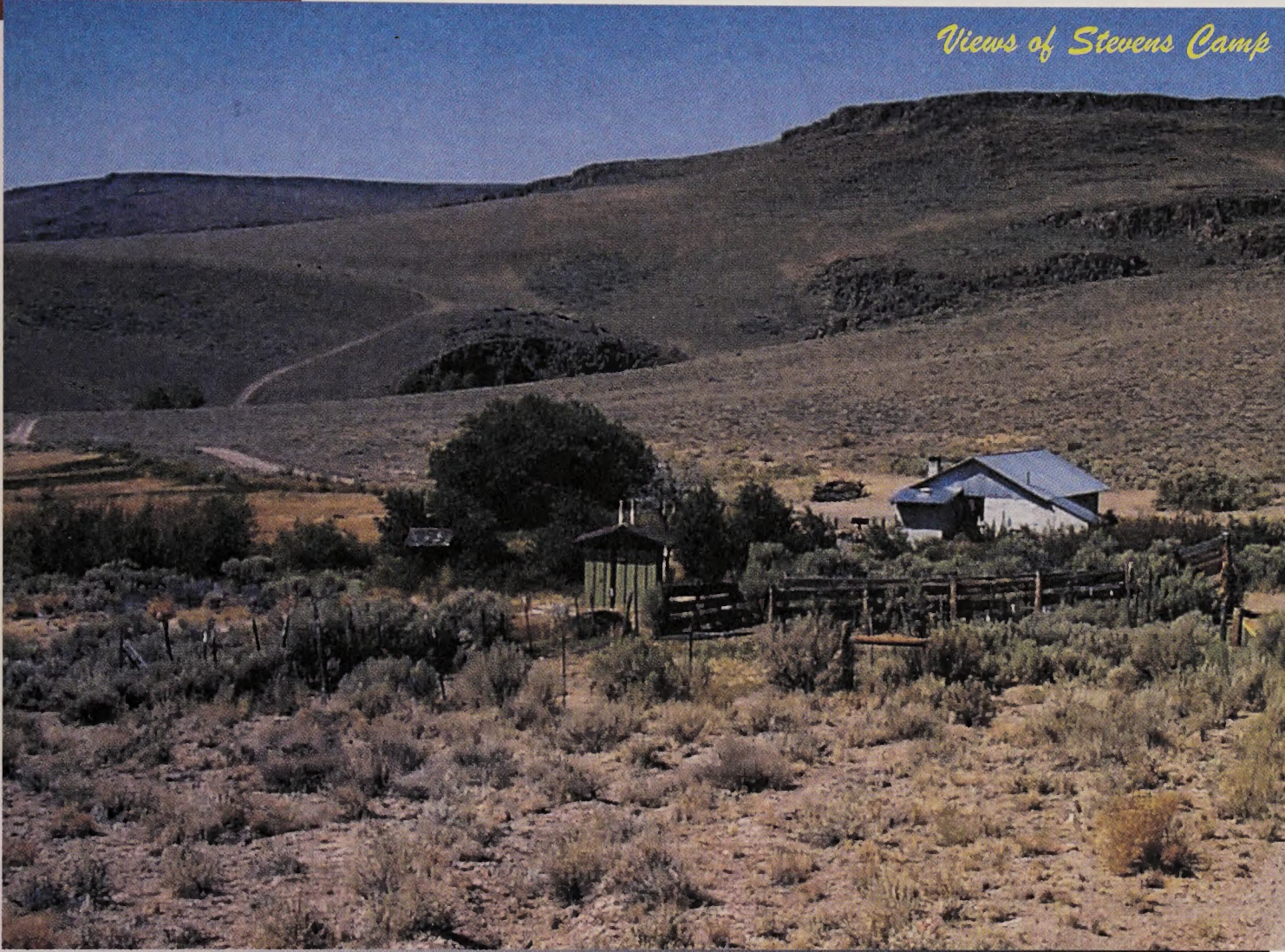
PRODUCTIVITY
AND LONG-TERM
SHORT-TERM USES
BETWEEN LOCAL
RELATIONSHIP

As described in the introduction to the
study, the purpose of this study was to
investigate the relationship between local
and long-term productivity. The study
was conducted in the form of a survey
of 100 firms in the manufacturing sector.
The survey was designed to collect data
on a variety of factors, including the
firm's size, age, and location, as well
as its productivity and long-term use of
local resources. The data were then
analyzed to determine the relationship
between these factors and productivity.
The results of the study are presented
in the following sections.

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The results of the study are presented
in the following sections. The first
section discusses the relationship between
local and long-term productivity. The
second section discusses the relationship
between the firm's size and productivity.
The third section discusses the relationship
between the firm's age and productivity.
The fourth section discusses the relationship
between the firm's location and productivity.

Views of Stevens Camp



Chapter 5: Consultation and Coordination

BUREAU OF LAND MANAGEMENT



BLACK ROCK DESERT
HIGH ROCK CANYON
EMIGRANT TRAILS

NATIONAL CONSERVATION AREA

Chapter 5: Consultation and Coordination

Consultation, coordination and public involvement have occurred throughout the process of preparing this Draft EIS and Resource Management Plan. This has been accomplished primarily through public meetings, informal meetings, individual contacts, news releases and Federal Register notices.

5.1 SCOPING AND PUBLIC PARTICIPATION

Scoping is an early and open process to determine the scope of issues to be addressed in the planning process, as defined by 40 Code of Federal Regulation (CFR) Parts 1500 et. seq. The scoping process serves several purposes, including providing a formal mechanism to engage the public in identifying key planning and land management issues. The BLM conducted formal public scoping activities during the 60-day scoping period from December 6, 2001 to February 4, 2002. These activities included developing a project website and conducting public scoping meetings in an “open house” format.

5.2 PROJECT WEBSITE

The website was designed to provide the public with information on the planning issues and the overall process as well as an opportunity to submit input directly to the BLM. The project website, www.BlackRockHighRock.org, initially went “live” on November 26, 2001 and featured content that provided users with information on resource and planning issues associated with *Black Rock-High Rock*. Information included, but was not limited to, text of the NCA Act, NCA and Wilderness Facts, a map of the planning area, a form for users to add their name to the project mailing list, and a form for users to submit input as part of the scoping process.

5.3 SCOPING MEETINGS (AND COLLABORATIVE PLANNING WORKSHOPS)

The scoping meetings took place in an “open house” format to provide members of the public an opportunity to interact with resource specialists from the BLM on the respective resource issues as well as provide input to the BLM using a variety of available mechanisms. Five (5) public workshops were scheduled for the general public in late November/early December 2001. In addition, a separate scoping meeting was scheduled specifically for tribal representatives on Tuesday, December 4, 2001 in Reno, Nevada.

Publication of the Notice of Intent (NOI) in the Federal Register, which is considered the formal start of the scoping process, did not occur until December 6, 2001. This precluded the 5 public workshops from functioning as formal public scoping meetings under the NEPA process. Nevertheless, although they could not be considered formal scoping meetings as part of the EIS process, the meetings could still be conducted as part of the overall RMP process. As a result, the BLM conducted the meetings, as originally scheduled, and referred to them as Collaborative Planning Workshops.

Two additional meetings consisting of an identical format were conducted during mid-January during the scoping period and constituted formal scoping meetings. In all advertising efforts associated with these two scoping meetings, the BLM made a point to inform the public that anybody who had attended the collaborative planning workshops in November and December of 2001 and provided input was also invited to attend these meetings, but their attendance was not necessary because any input received during the earlier meetings would be considered by the BLM as formal scoping comments.

5.4 SCOPING PUBLICITY

A variety of methods were used to publicize the collaborative planning workshops and the scoping meetings. Meeting announcements were mailed directly to the project mailing list of nearly 1,500 names, as well as to members of the Resource Advisory Council (RAC) Subgroup three weeks before the meetings were conducted. In addition, a press release was distributed to 54 regional and local media outlets announcing the meetings. Finally, the project website posted the press releases and meeting announcements under the appropriate content headings: *press releases* and *meetings*, respectively. For the collaborative planning workshop held specifically for tribal representatives, a separate mailing was made to tribal representatives inviting their participation. The representatives were also telephoned directly to announce the meeting and were asked to use tribal communication channels to spread the word with respect to the meeting.

Table 5-1 summarizes key information related to the numerous meetings conducted during the scoping period and just prior to the scoping period. All meetings, except where otherwise noted, were held from 5:00 pm to 9:00 pm.

Table 5-1. Collaborative Planning Workshops and Scoping Meetings

Meeting	Type	Location	Attendees
November 28, 2001	Collaborative Planning Workshop	Winnemucca, NV BLM-Winnemucca Field Office 1500 E. Winnemucca Boulevard	9
November 29, 2001	Collaborative Planning Workshop	Gerlach, NV Gerlach Community Center 410 Cottonwood Street	9
November 30, 2001	Collaborative Planning Workshop	Cedarville, CA BLM-Surprise Field Office 602 Cressler Street	4
December 3, 2001	Collaborative Planning Workshop	Sacramento, CA Scottish Rite Masonic Center 6151 H Street	45
December 4, 2001 1 – 4 pm	Collaborative Planning Workshop – For Tribal Representatives	Reno, NV BLM-Nevada State Office 1340 Financial Boulevard	1
December 4, 2001	Collaborative Planning Workshop	Reno, NV BLM-Nevada State Office 1340 Financial Boulevard	78
January 16, 2002	Scoping Meeting	Reno, NV BLM-Nevada State Office 1340 Financial Boulevard	45
January 17, 2002	Scoping Meeting	Sacramento, CA Scottish Rite Masonic Center 6151 H Street	4

NOTE: The BLM considered any input received at the Collaborative Planning Workshops to have the same status as though it was submitted during the formal 60-day scoping period. It was intended that the Collaborative Planning Workshops were to function as formal scoping meetings, but delays in the publication of the NOI precluded them from having that formal status.

All meetings were open to the public and were held in large, single rooms. As attendees arrived, they were asked to sign-in and they were given a folder containing informational materials related to the planning effort. These included a map of the planning area, fact sheets describing the planning issues that had been identified thus far in the process, a comment form, and a copy of the *Nevada Sage*, a newsletter published by the BLM Nevada State Office containing articles on *Black Rock-High Rock*. Different “issue stations” that focused on particular planning issues were positioned around the meeting area and were staffed by resource specialists from the BLM. The resource specialists were present to answer any questions that attendees may have had or to clarify any issues on that particular subject. Each issue station had poster-sized maps geographically depicting the resources related to that issue, as well as additional samples of the fact sheets related to that issue. Some of the stations addressed broad issues and included some specific sub-issues as well. For example, the “Historical and Cultural Resources” station covered issues related to the Applegate-Lassen Trail as well as other historical and cultural issues, including those important to tribal concerns.

Numerous fact sheets were developed for the various broad issues represented at the meeting; these issues included:

- Access and Transportation
- Grazing and Private Interests
- Recreation and Off-Highway Vehicle (OHV) Use
- Wilderness
- Wildlife and Hunting (including Wild Horses & Burros)

Other informational materials were developed that addressed applicable portions of the NCA legislation, a summary of comments that BLM has heard so far from other sources and planning efforts, key planning concerns, and Questions and Answers.

For participants who wished to submit input, three methods were available for them at the workshops and scoping meetings:

- A computer featuring the *Black Rock-High Rock* website and its online input form,

- A paper form to provide handwritten comments, and
- A tape recorder for submitting spoken comments.

Attendees who submitted input at the workshops and scoping meetings opted for using the website or the written form, and nobody used the available tape recorder.

5.5 PUBLIC INPUT

Public input received through the project website, collaborative planning workshops, public scoping meetings, direct mailings, hardcopy comment forms, and personal communications, which include all input received during the public scoping period as well as those received in the weeks leading up to the scoping period, were compiled into a single database for management and analysis. A total of 825 comments are contained in the database and were grouped into seven (7) issue categories. The categories for the comments submitted through the website as well as on comment forms were self-selected by the individual submitting the comment from a menu of choices. Table 5-2 summarizes the number of comments received by category.

Table 5-2. Types of Scoping Comments Received

Input Category	Comments	Percent
Access and Transportation	151	18%
Historic / Cultural Resources (including emigrant trails)	54	7%
Livestock Grazing, Mining and Other Private Interests	61	7%
Other	130	16%
Recreation / OHV (Burning Man, land speed, rocketry, etc.)	189	23%
Wilderness	95	12%
Wildlife / Hunting	143	17%
Total	825	100%

5.6 ISSUES ADDRESSED

Issues identified through the scoping process were considered in the development and analysis of the planning alternatives. Comments were grouped into seven (7) categories: Recreation/OHV (Burning Man, land speed, rocketry, etc.); Access and Transportation; Wildlife/Hunting; Other; Wilderness; Livestock, Grazing and Other Public Interests; and Historic and Cultural Resources (including emigrant trails), as identified below. Comments that were not considered in alternative development and analysis were beyond the scope of this EIS. Those comments are described in the following section.

5.6.1 ACCESS AND TRANSPORTATION

Most public comments opposed constructing new access, however, others argued that access is necessary to accommodate visitation, private land owner activities, wild fire response, and prescribed management activities, including revegetation of fire-destroyed lands and wild horse population

control. The main issues to address are to what degree should access be provided to the plan area and private landowners and how can this be accomplished while preserving the “primitive character” of the NCA and protecting the area’s resources.

5.6.2 HISTORIC AND CULTURAL RESOURCES (INCLUDING EMIGRANT TRAILS)

Public comments addressed management of the trails and the degree of exposure the trails should be subject to from visitation and motorized activity. Issues involved conserving the trails in their current state versus restoring them to “pioneer” conditions and restricting access, which deprives the visitors from the trails, versus accommodating visitors, which may further deteriorate the trails. The main issues to address are should the trails be conserved or restored and how can the trails and their setting be adequately protected while providing opportunities for public enjoyment of this resource.

5.6.3 LIVESTOCK, GRAZING AND OTHER PRIVATE INTERESTS

Comments primarily focused on impacts to private rights and permits, such as grazing, within the NCA and changes in private activities due to NCA designation. The main issues to address are can private rights and permits, such as grazing, be accommodated while meeting the intent of NCA designation and should any changes or restrictions be implemented to the current regulation of private rights.

5.6.4 RECREATION/OHV (BURNING MAN, LAND SPEED, ROCKETRY, ETC.)

Comments suggested that the NCA should be emphasized as a “conservation” area and not a “recreation” area. Most comments noted that current recreation activities should continue, including camping, rocketry, land speed activities, and the Burning Man festival, however, OHV activity should either be ceased or kept to a minimum on designated routes only.

Management improvements suggested include rotating the location of large-scale permitted events on the Playa to prevent damage, maintaining the existing number of campsites, and providing minimal to no recreational amenities in remote areas, such as restrooms and other modern facilities. The main issues to address are to what degree should the NCA designation affect current recreational activities and how can public access and diverse recreational opportunities be provided while protecting and preserving resources within the NCA.

5.6.5 WILDERNESS

Comments mostly argued over passive versus aggressive approaches to management of Wilderness Areas. Issues focused on establishing a baseline for wilderness conditions, revegetation after wild fires, restoration of rangeland areas, presence of wild horse and cattle populations, intervention with non-native plant species, public access, recreational signage, and camping in the wilderness. The main issues to address are to what extent should management activities interfere with nature to protect and enhance Wilderness Areas, while accommodating and enhancing the visitor experience.

5.6.6 WILDLIFE/HUNTING

Comments addressed animal population management, availability of water resources to

support wildlife, and restrictions on hunting and fishing. The main issue to address is how can wildlife resources be conserved and protected, while providing opportunities for hunting and fishing.

5.6.7 OTHER

Other issues derived from comments include providing a visitors center and information kiosks; location of those visitor services; providing interpretive materials on the history of the emigrant trails, Burning Man, and warnings about the primitive nature of the area; and signage and other navigational information assistance within the NCA. The main issues to address are should visitor services and educational materials be provided to enhance the visitor experience and how should those services be implemented.

5.7 AGENCY CONSULTATION AND COORDINATION

During the NEPA decision-making processes, BLM is required to consult with certain federal, Native American, and state agencies and entities because of jurisdictional responsibilities (40 CFR 1502.25). BLM is also directed to integrate NEPA requirements with other environmental review and consultation requirements to reduce paperwork and delays (40 CFR 1500.4-5).

Title II, Section 202 of FLPMA directs BLM to coordinate planning efforts with Native American Indian tribes, other Federal departments, and agencies of the state and local governments as part of its land use planning process.

This section documents these consultation and coordination efforts undertaken by BLM during the preparation of this Draft EIS and RMP. Consultation will be an ongoing effort throughout the entire process of developing the final RMP and EIS.

5.7.1 NATIVE AMERICAN INDIAN TRIBES

In keeping with the provisions of NEPA and FLPMA, BLM established regular opportunities for interaction with tribal officials and conducted a Collaborative Planning Workshop for tribal representatives on December 4, 2001. Initial contact letters were mailed directly to tribal organizations in late March/early April 2002 to solicit suggestions and comments regarding tribal consultation during the NCA planning process. Table 5-3 lists tribal organizations that were contacted for consultation.

Table 5-3. Tribal Organizations Contacted

Alturas Rancheria	Lovelock Tribal Council
Battle Mountain Band Council	Nevada Indian Environmental Coalition
Burns Paiute Tribe General Council	Pit River Tribe
Cederville Rancheria Tribal Office	Pyramid Lake Tribal Council
Confederation of Warm Springs Reservation	Shoshone-Bannock Tribes
Fallon Shoshone-Paiute Tribe	Shoshone-Paiute Business Council
Fort Bidwell Reservation	Summit Lake Paiute Tribe
Fort Hall Reservation	Susanville Indian Rancheria
Fort McDermitt Tribal Office	Walker River Pauite Tribal Council
Intertribal Council of Nevada	Winnemucca Tribal Council
Klamath General Council	--

5.7.2 FISH AND WILDLIFE SERVICE

The Endangered Species Act of 1973 (ESA), as amended, directs every federal agency to ensure that any action it authorizes, funds, or carries out is not likely to jeopardize the existence of any listed species or destroy or adversely modify critical habitat (50 CFR 400). The ESA authorizes federal agencies to enter into early consultation with the Fish and Wildlife Service (FWS) to make those determinations. Consultation by BLM with the FWS under Section 7 of the ESA was initiated on December 14, 2001. A list of threatened, endangered, proposed and candidate plant and animal species, and species of concern that may be present in the NCA and associated wilderness areas was requested.

5.7.3 STATE HISTORIC PRESERVATION OFFICE

The State Historic Preservation Officer (SHPO) must be consulted concerning any resource management proposals that may affect a cultural property listed on or eligible for the National Register of Historic Places. The SHPO has been part of the State Planning team since it was formed. A letter requesting planning process input was sent to the SHPO in March 2002.

5.7.4 RESOURCE ADVISORY COUNCIL (RAC) SUBGROUP

Consultation and coordination with other agencies and organizations were conducted primarily through the Black Rock Desert-High Rock Canyon Emigrant Trails National Conservation Area Subgroup (RAC Subgroup). This group was formed in April 2001 at a joint meeting of the Sierra Front-Northwestern Great Basin and Northeast California Resource Advisory Councils (RACs). The purpose of the RAC

Subgroup is to provide advice and counsel to the two parent RACs and to the BLM during the RMP planning process.

The RAC Subgroup provided a great deal input in the development of Draft EIS and RMP. Throughout the process, the RAC Subgroup actively participated in the development of the goals, alternatives, and identification of the impacts contained in this Draft EIS and RMP. Moreover, the RAC Subgroup was included in internal reviews of this Draft prior to its final preparation.

In October 2002, the two RACs held a second joint meeting in Reno, Nevada to hear a full report on the success of the Subgroup's involvement in the NCA planning process from its Vice-chair and on the status of the process from the BLM NCA Manager. Members of both RACs expressed the belief that the RAC Subgroup had worked very well with BLM and in keeping the parent RACs informed and involved in the planning process.

Since its formation, the RAC Subgroup has grown to 26 members and has met 8 times: seven planning meetings and a special Wilderness Workshop held in December of 2001. Meeting places have been in Cedarville, California, and in Winnemucca and Reno, Nevada. In addition, some members have been on field trips to the NCA, and many have participated in additional meetings of the two parent RACs, and in other NCA related BLM planning and public scoping meetings.

The RAC Subgroup is comprised of members from different communities, representing diverse interests. Members of the Sierra Front-Northwestern Great Basin and Northeast California Resource Advisory Councils (RACs) and the RAC Subgroup are listed in Chapter 6 Preparers.

5.7.5 STATE PLANNING TEAM

In addition to coordination conducted with the RAC subgroup, a state planning team consisting of representatives from Nevada state agencies was formed and tasked with providing input from the Nevada state perspective in the development of this Draft EIS and RMP.

Meetings with the State Planning Team were held on:

- February 21, 2002
- March 21, 2002
- August 20, 2002
- September 5, 2002

5.7.6 ECONOMICS TEAM

Coordination and consultation was also conducted with an economics team composed of representatives from Washoe County, Nevada, Humboldt County, Nevada, Pershing County, Nevada, Modoc County, California, the Nevada Association of County Governments, University of Nevada-Reno, Nevada BLM State Office, and members of the Black Rock-High Rock planning team.

Meetings with the Economics Sub-Team were held in Lovelock, Nevada on the following dates:

- November 27, 2001
- March 14, 2002
- August 14, 2002

5.7.7 SUMMARY OF CONSULTATION MEETINGS AND ISSUES

Table 5-4 provides a summary of agencies, tribes and other entities consulted during the Draft EIS and RMP process. The table also provides a summary of the meeting dates, issues raised, and how the issues were addressed in the Draft EIS and RMP.

Table 5-4. Summary of Consultation Activities and Issues

Constituency	Contact / Meeting Dates	Locations	Positions	How Addressed in Draft EIS and RMP
Tribes	1/16/02 4/12/02	Reno NV Winnemucca NV	Protect Traditional Uses. Protect Summit Lake & Tributary Water Quality. Protect Lahontan Cutthroat Trout Habitat.	All alternatives protect traditional uses to varying degrees. Rangeland Health Standards protect water quality in all alternatives. All alternatives protect LCT habitat (LCT is a threatened species).
State Black Rock Team	2/21/02 3/21/02 8/20/02 9/5/02	Winnemucca NV Carson City NV Reno NV Reno NV	Conform with State plans and regulations.	BLM regulations require conformance wherever consistent with federal laws and regulations.
Economics Team	11/27/01 3/14/02 8/14/02	Lovelock NV Lovelock NV Lovelock NV	Assure that County concerns are recognized.	Planning process fully considered all county plans.
County Transportation	3/13/02	Winnemucca NV	Share maintenance costs due to NCA visitation.	All alternatives include varying levels of road maintenance.
Private Landowners	11/1/01	Gerlach NV	Assure access to private lands.	The NCA Act and Wilderness Act assure reasonable access.
Resource Advisory Council Subgroup	6/13/01 9/21/01 11/2/01 11/3/01 12/13/01 1/25/02 3/11/02 3/12/02 6/20/02 6/21/02 9/18/02 9/19/02 9/20/02	Reno NV Winnemucca NV Cedarville CA Cedarville CA Reno NV (Subgroup Wilderness Trng) Reno NV Reno NV Reno NV Reno NV Reno NV Reno NV Reno NV Reno NV	Fifteen interests were represented on the Subgroup. These covered the full range of concerns considered by the NCA Planning Staff during this process.	All concerns have been addressed in the range of alternatives.

Chapter 5 – Consultation and Coordination

Northeast California Resource Advisory Council	4/5/01	Reno NV	No concerns beyond those expressed by the Subgroup were expressed.	
	6/1/01	(Subgroup formed)		
	1/10/02	Cedarville CA		
	4/19/02	Alturas CA		
	7/11/02	Susanville CA		
	7/12/02	Cedarville CA		
	10/18/02	Cedarville CA Sparks NV	NCA Joint Meeting	
Sierra Front-Northwest Great Basin Resource Advisory Council	4/5/01	Reno NV	No concerns beyond those expressed by the Subgroup were expressed.	
	4/26/01	(Subgroup formed)		
	7/26/01	Genoa NV		
	11/9/01	Winnemucca NV		
	3/28/02	Elko NV		
	7/25/02	Carson City NV		
Northwest, NV	7/26/02	Bridgeport CA		
	10/18/02	Bridgeport CA Sparks NV	NCA Joint Meeting	
Public Meetings	2/26/01	Susanville CA	Initial public reaction included concerns about use of condemnation to acquire private lands, and blocking off access to private lands and interests in the planning area, and severe limitations on public recreational access (hunting).	These early concerns have been all but eliminated during the collaborative planning process. Public meetings now take place in an atmosphere of friendly discussion on a wide array of non-controversial topics. Mutual respect and fair hearings of all points of view are the rule.
	2/27/01	Alturas CA		
	2/28/01	Cedarville CA		
	3/5/01	Reno NV		
	3/6/01	Gerlach NV		
	3/7/01	Winnemucca NV		
	11/28/01	Winnemucca NV		
	11/29/01	Gerlach NV		
	11/30/01	Cedarville CA		
	12/3/01	Sacramento CA		
	12/4/01	Reno NV		
	1/16/02	Reno NV	Scoping Meeting	
	1/17/02	Sacramento CA	Scoping Meeting	
Interagency (Federal/Tribal/State)	6/26/01	Winnemucca NV	NTC course –	This workshop was well attended by State, county, Tribal and private interests.
	6/27/01	Winnemucca NV	Community Collaborative	
	6/28/01	Winnemucca NV	Planning Workshop	
	1/16/02	Reno NV		
	2/21/02	Reno NV	NV Division of Wildlife wants to continue to use aircraft to manage wildlife and habitat in newly designated Wilderness Areas.	
	5/29/02	Winnemucca NV		
	10/22/02	Verdi NV		
	10/23/02	Verdi NV		
	10/24/02	Verdi NV		
	10/25/02	Verdi NV		
	11/14/02	Carson City NV		
			SHPO expressed concern that wagons not be used to recreate lost traces of the historic trails, and wants more cultural surveying in the planning area.	

Chapter 6: Preparers and Reviewers

This Draft EIS and RMP was developed as part of a collaborative planning process and prepared by Booz Allen Hamilton, a third party consultant, in coordination with the Winnemucca Field Office in Nevada, the Surprise Field Office in California, and Nevada State Office of the BLM.

BLM Reviewers/Preparers

Name	Education/Experience	Responsibility
Dave Cooper <i>Winnemucca Field Office</i>	B.S. Forestry (Outdoor Recreation) 27 years of experience	NCA Manager
Ester Hutchison <i>Winnemucca Field Office</i>	B.S. Animal Science 16 years of experience	NCA Planning Team Lead
Richard Aro <i>Surprise Field Office</i>	PhD. Rangeland Management 45 years of experience	Rangeland, Vegetation and Uses
Jerry Carpenter <i>Winnemucca Field Office</i>	Civil Engineering Technician 23 years of experience	Transportation
Clarence Covert <i>Winnemucca Field Office</i>	M.S. B.S. Wildlife Management 16 years of experience	Wildlife
Ken Detweiler <i>Winnemucca Field Office</i>	B.S. Wildlife Science 26 years of experience	Lands and Realty
Craig Drake <i>Winnemucca Field Office</i>	B.S. Hydrology 10 years of experience	Water Resources
Vic Dunn <i>Winnemucca Field Office</i>	B.S. Geology 25 years of experience	Minerals and Energy
Roger Farschon <i>Surprise Field Office</i>	M.S. Range Management B.S. Conservation of Natural Resources 24 years of experience	Rangeland, Vegetation and Uses Fish and Wildlife Special Status Species Special Designations Visual Resources

Chapter 6 – Preparers and Reviewers

Dave Lefevre <i>Winnemucca Field Office</i>	B.S. Recreation Management 4 years of experience	Recreation Visual Resources
Vince Lincoln <i>Winnemucca Field Office</i>	B.S. Geography 3 years of experience	GIS mapping
Brian Murdock <i>Winnemucca Field Office</i>	B.S. Environmental Studies 7 years of experience	Wilderness Special Designations
Paul Myers <i>Nevada State Office</i>	B.S. Economics 31 years of experience	Social and Economic Conditions
Ron Pearson <i>Winnemucca Field Office</i>	B.S. Soils & Meteorology 22 years of experience	Rangeland, Vegetation and Uses
Jamie Thompson <i>Winnemucca Field Office</i>	J.D. Law B.A. History 12 years of experience	Writer/Editor
Dave Valentine <i>Winnemucca Field Office</i>	M.A. Anthropology B.A. German & Geology 16 years of experience	Cultural Resources Native American Values Paleontological Resources Visual Resources
Matt Varner <i>Winnemucca Field Office</i>	B.S. Fisheries & Wildlife Science 3 years of experience	Water Resources Aquatic Wildlife
Mike Whalen <i>Winnemucca Field Office</i>	A.A. Natural Resources Management/ Range 35 years of experience	Fire Management

Booz Allen Hamilton Reviewers/Preparers

Name	Education/Experience	Responsibility
Tim Canan	M.URP. Urban and Regional Planning 13 years of experience	Project Manager Purpose and Need Alternative Development
Chris Keefe	B.S., Biology 12 years of experience	NEPA Lead Alternative Development Environmental Consequences
Sara Kirschbaum	M.A. Geography and Environmental Science B.A. Graphic Design 2 years of experience	GIS Mapping
Bryan Klyse	M.ESM. Environmental Science and Management B.A. Social Science 2 years of experience	Alternative Development Environmental Consequences
Colleen Maguire	M.S. Geographic and Cartographic Sciences B.A. Geography 6 years of experience	GIS Mapping
Dan Morse	M.S. Forest Economics B.S. Natural Resource Recreation 3 years of experience	Alternative Development Affected Environment
Kasey Pearson	B.A. Environmental Biology 5 years of experience	Alternative Development

Chapter 6 – Preparers and Reviewers

Melanie Pyryt	B.S.A. Environmental Protection 4 years of experience	Alternative Development Environmental Consequences
David Wegner	M.S. Aquatic Sciences B.S. Aquatic Ecology 22 years of experience	Review

BLM Persons Consulted

Name	Education/Experience	Responsibility
Brian Amme <i>Nevada State Office</i>	B.A. Honors, Cultural Anthropology 20 years of experience	Review
Owen Billingsley <i>Surprise Field Office</i>	B.A. Geology 29 years of experience	Project Oversight
Tom Burke <i>Nevada State Office</i>	B.A. M.A. Ph.D. Anthropology 28 years of experience	Review Cultural Resources Native American Values Paleontological Resources
Joey Carmosino <i>Winnemucca Field Office</i>	B.A. Anthropology 2 years of experience	Recreation
Lynn Clemons <i>Winnemucca Field Office</i>	B.S. Outdoor Recreation 27 years of experience	Wilderness, Visual Resources and Recreation
Tara de Valois <i>Surprise Field Office</i>	B.S. Rangeland Management 14 years of experience	Rangeland, Vegetation and Uses
Elias Flores <i>Surprise Field Office</i>	B.S. Wildlife Management, B.S. Fisheries Management 7 years of experience	Wildlife
Randy Reader <i>Winnemucca Field Office</i>	B.A. Outdoor Recreation 18 years of experience	Law Enforcement
Terry Reed <i>Winnemucca Field Office</i>	M.S. Ecology 30 years of experience	Project Oversight
Tom Seley <i>Winnemucca Field Office</i>	B.S. Range Management 26 years of experience	Wild Horses and Burros
Susie Stokke <i>Nevada State Office</i>	B.S. Range Management 25 years of experience	Review
Mike Zielinski <i>Winnemucca Field Office</i>	B.S. Resource Management Soils 28 years of experience	Rangeland, Vegetation and Uses

RAC GROUPS AND MEMBERS CONSULTED**Black Rock-High Rock NCA Resource Advisory Committee (RAC) Subgroup**

Name	Organization/Resource Expertise	City, State
Don Klusman, Chairman	California Association of 4WD Clubs	Yuba City, California
Huel Morphis, Vice Chair	Dispersed Recreation (Member of Northeast California RAC)	Susanville, California
Karen Boeger	Friends of Nevada Wilderness (Member of Sierra Front - Northwestern Great Basin RAC)	Reno, Nevada
Susie Bunyard	Tourism	Cedarville, California
Robyn Burdette	Native Americans (Summit Lake Paiute Tribe Council Chair)	Winnemucca, Nevada
Patricia Cantrall	Modoc County, California (Modoc County Supervisor)	Likely, California
Donna L Cossette	Native Americans (Fallon Paiute-Shoshone Tribe Chair)	Fallon, Nevada
Bill Deist (Alternate for John Milton)	Humboldt County, Nevada (Humboldt County Administrator)	Winnemucca, Nevada
Chuck Dodd	Historic Trails	Chilcoot, California
Rochanne Downs (Alternate for Donna Cossette)	Native Americans	Fallon, Nevada
Gerry Emm	Native Americans	Silver Springs, Nevada
Norvie Enns	Nevada & California Rockhounds	Reno, Nevada
Lani Estill	Soldier Meadows Guest Ranch	Likely, California
Mark Farman	Nevada Division of State Lands (Member of Sierra Front - Northwestern Great Basin RAC)	Reno, Nevada
Jim French	Nevada Division of Wildlife	Winnemucca, Nevada
Marian Goodell	Burning Man and Special Recreation Permits	San Francisco, California
Jerry Hepworth	Mining and Energy (Member of Sierra Front - Northwestern Great Basin RAC)	Winnemucca, Nevada
Nancy Huffman	Modoc County Supervisor (Member of Northeast California RAC)	Tulelake, California
James Jeskey	Public At Large (Member of Northeast California RAC)	Susanville, California
Larry J. Johnson	Coalition for Nevada's Wildlife	Reno, Nevada

Black Rock-High Rock NCA Resource Advisory Committee (RAC) Subgroup (cont'd)

Name	Organization/Resource Expertise	City, State
Hugh Judd	Wildlife (Member of Sierra Front - Northwestern Great Basin RAC)	Sparks, Nevada
James Linebaugh	Range	Carson City, Nevada
Andrew List	Nevada Association of Counties	Carson City, Nevada
Mike Lopushinsky (Alternate for Robyn Burdette)	Representing: Native Americans	Winnemucca, Nevada
Susan Lynn	Public Resource Associates	Reno, Nevada
Mike McCurry	Recreation	Reno, Nevada
John H Milton III	Humboldt County, Nevada (Humboldt County Commission Chair)	Winnemucca, Nevada
Shaaron Netherton	Friends of Nevada Wilderness	Reno, Nevada
Donna Potter	Empire-Gerlach, Nevada	Empire, Nevada
Tansey K. Smith (Alternate for Donna Cossette)	Native Americans	Fallon, Nevada

Sierra Front-Northwest Great Basin Resource Advisory Committee (RAC) Subgroup

Name	Resource Expertise (Term Expires)
Jacques Etchegoyhen Chairman	Elected Official- (2004)
Tina Nappe Vice Chair	Environmental- (2004)
Susie Askew	Wild Horse- (2004)
Karen Boeger	Recreation - (2003)
Gerry Emm	Native Americans- (2004)
John Falen	Nevada Cattlemen- (2002)
Mark Farman	State Agency- (2002)
Jerry Hepworth	Energy & Minerals- (2004)
Hugh Judd	Wildlife- (2002)
Robert Kautz	Archaeology- (2003)
Tebeau Piquet	Mining- (2002)
Bennie Romero	Livestock- (2002)
Bill Roullier	Transportation & Right-of-Ways- (2003)
Sherm Swanson	Academic- (2002)
Larie Trippet	Public-at-Large- (2003)

Northeastern California Resource Advisory Committee (RAC) Subgroup

Name	Resource Expertise (Term Expires)
Leon Chauvet (Chair)	Off Highway Vehicles- (2003)
Martin Balding	National/Regional Environmental- (2005)
Frank Bayham	Archaeological /Historical- (2003)
Daniel Cardenas	Native American- (2004)
John Allen Erquiaga	Livestock Grazing- (2003)
Wesley Finley, Jr.	Wild Horse and Burro- (2004)
Tim Garrod	Public-at-Large- (2005)
John Hanson	Federal Grazing- (2004)
Nancy Huffman	Elected Official- (2004)
Henricus Jansen	Academia- (2005)
James C. Jeskey	Public-at-Large- (2003)
Kenneth McGarva	Livestock Grazing- (2003)
Gerald Nordstrom	National/Regional Environmental- (2004)
Terry Williams	Dispersed Recreation Activity- (2005)
L.R. "Skip" Wilmore	Timber- (2005)

Glossary

ADAPTIVE MANAGEMENT

Adaptive management is a procedure in which decisions and changes in management are made as part of an ongoing process. It is a continuous process of planning, implementing, monitoring, evaluating, and incorporating new information into strategies to meet the goals and objectives of ecosystem management as described in the RMP. This process builds on current knowledge, observation, experimentation, and learning from experience. A continuous feedback loop allows for mid-course corrections in management to meet planned goals and objectives. It also provides a model for adjusting goals and objectives as new information develops and public desires change.

ALLOTMENT

An area allocated for livestock use by one or more qualified grazing permittees including prescribed numbers and kinds of livestock under one plan of management.

ALLOTMENT MANAGEMENT PLAN (AMP)

A plan for managing livestock grazing on specified public land. An AMP is designed to attain specific management goals in a grazing allotment and is prepared cooperatively with the permittee(s) or lessee(s).

ALL-TERRAIN VEHICLE (ATV)

Small 3-wheel and 4-wheel recreational motor vehicles capable of operating in rugged terrain.

ANIMAL UNIT

One cow, one wild horse, two burros or five sheep.

ANIMAL UNIT MONTH (AUM)

The amount of forage required to sustain a specified animal unit for one month typically equating to approximately 800 pounds of useable air-dried forage.

APPROPRIATE MANAGEMENT LEVEL (AML)

The optimum number of wild horses that provides a thriving natural ecological balance on the public range.

APPROPRIATE MANAGEMENT RESPONSE (AMR)

Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

Category A - private lands, BLM facilities and other areas with values where fire would not be desired.

Category B - areas where a variety of appropriate fire suppression techniques would be applied to meet the resource objectives specified in the RMP and other site specific activity plans.

AREA OF CRITICAL ENVIRONMENTAL CONCERN (ACEC)

An area of public lands where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect humans from natural hazards.

BENEFICIAL USE

A use of water, such as domestic, municipal, agricultural, mining, stock watering, recreation, wildlife, or power generation, that provides a benefit.

Glossary

BEST MANAGEMENT PRACTICES (BMPS)	A dynamic and evolving set of practices based on current scientific information and technology which, when applied during implementation of management actions, ensures that adverse impacts are minimized. BMPs are applied based on site-specific evaluation and represent the most effective and practical means to achieve management goals for a given site.										
BIODIVERSITY	The variety of life and its processes, and the interrelationships within and among various levels of ecological organization. Conservation, protection, and restoration of biological species and genetic diversity are needed to sustain the health of existing biological systems. Federal resource management agencies must examine the implications of management actions and development decisions on regional and local biodiversity.										
BURNING MAN	A large special recreation event that BLM typically receives an application to hold the annual event on the playa. It is a week long combination art festival, social event, and experiment in community living.										
CLASS OF LIVESTOCK	The species of domestic livestock-cattle and sheep.										
CUMULATIVE IMPACTS	The impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Cumulative impacts can result from similar projects or actions, as well as from projects or actions that have similar impacts (40 CFR 1508.7).										
ECOLOGICAL STATUS	<p>The present state of vegetation of a range site in relation to the potential natural community for that site. Four classes are used to express the degree to which the production or composition of the present plant community reflects that of the potential natural community (climax):</p> <table><tr><th>Ecological status (seral stage)</th><th>Percent of community in climax condition</th></tr><tr><td>Potential natural community</td><td>76–100</td></tr><tr><td>Late seral</td><td>51–75</td></tr><tr><td>Mid-seral</td><td>26–50</td></tr><tr><td>Early seral</td><td>0–25</td></tr></table>	Ecological status (seral stage)	Percent of community in climax condition	Potential natural community	76–100	Late seral	51–75	Mid-seral	26–50	Early seral	0–25
Ecological status (seral stage)	Percent of community in climax condition										
Potential natural community	76–100										
Late seral	51–75										
Mid-seral	26–50										
Early seral	0–25										
EASEMENT	A right or privilege one may have on another's land.										
ECOSYSTEM	A system made up of a community of animals, plants, and bacteria and its interrelated physical and chemical environment.										
ELIGIBLE RIVER SEGMENT	A section of a river that qualifies for inclusion into the National Wild and Scenic River System through determination that it is free-flowing and with its adjacent land area possessing at least one river-related value considered to be outstandingly remarkable.										

Glossary

ENDANGERED SPECIES	Any animal or plant species in danger of extinction throughout all of a significant portion of its range. These species are listed by the United States Fish and Wildlife Service.
ENVIRONMENTAL ASSESSMENT (EA)	A concise public document that a Federal agency prepares under the National Environmental Policy Act (NEPA) to provide sufficient evidence and analysis to determine whether a proposed agency action would require preparation of an environmental impact statement (EIS) or a finding of no significant impact. A Federal agency may also prepare an EA to aid its compliance with NEPA when no EIS is necessary or to facilitate preparation of an EIS when one is necessary.
ENVIRONMENTAL IMPACT STATEMENT (EIS)	A detailed written statement that is required by the National Environmental Policy Act (NEPA) for a proposed major Federal action significantly affecting the quality of the human environment. The findings from the document are published in a Record of Decision (ROD).
ENVIRONMENTAL JUSTICE	<p>The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no group of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from operations or the execution of Federal programs and policies.</p> <p>Executive Order 12898 directs federal agencies to make achieving environmental justice part of their missions by identifying and addressing disproportionately high and adverse effects of agency programs, policies, and activities on minority and low-income populations.</p>
EROSION	The wearing away of land surface either by natural weathering processes, (including water, wind, or ice) or human or animal activities.
FINDING OF NO SIGNIFICANT IMPACT (FONSI)	A public document issued by a Federal agency briefly presenting the reasons why an action for which the agency has prepared an Environmental Assessment does not have potential for a significant effect on the human environment and, thus, will not require preparation of an Environmental Impact Statement.
FIRE SUPPRESSION	All the work activities connected with fire-extinguishing operations, beginning with the discovery and continuing until the fire is completely extinguished.
FOUR-WHEEL-DRIVE (4WD)	Trucks, cars, or sport utility vehicles with high clearance and the ability to operate off-pavement, on rugged terrain, as well as on highways.
FUNCTIONING-AT-RISK	Riparian-wetland areas that are in functional condition but an existing soil, water, or vegetation attribute makes them susceptible to degradation.

Glossary

HERD	One or more wild horse bands using the same general area.
HERD AREA (HA)	A geographic area identified as having provided habitat for a wild horse herd.
HERD MANAGEMENT AREA (HMA)	A geographic area identified in a Management Framework Plan or Resource Management Plan for the long-term management of a wild horse herd.
HERD MANAGEMENT AREA PLAN	A plan that prescribes measures for the protection, management, and control of wild horses and their habitat on one or more HMAs, in conformance with decisions made in approved Management Framework or Resource Management Plans.
KNOWN GEOTHERMAL RESOURCE AREA (KGRA)	An area in which the geology, nearby discoveries, competitive interest, or other indicia would, in the opinion of the Secretary, engender the belief in men who are experienced in the subject matter that the prospect for extraction of geothermal steam or associated geothermal resources are good enough to warrant expenditures or money for that purpose (43 CFR 3200.0-5(k)).
IMPACT	<p>The resulting effect of an action whether direct, indirect, or cumulative on a specific resource that may be beneficial or detrimental (adverse).</p> <p>Direct: Impacts caused by an action occurring at the same time and place.</p> <p>Indirect: Impacts caused by an action and occurring later in time or farther removed in distance, but still reasonably foreseeable.</p> <p>Cumulative: Impacts that result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions.</p>
INSTANT STUDY AREA (ISA)	A designation of all primitive or natural areas formally identified prior to November 1, 1975, that were to be studied for wilderness suitability and recommended to the President by July 1, 1980 as mandated under Section 603 of FLPMA.
INTERIM MANAGEMENT POLICY	The policy under which the Bureau of Land Management (BLM) manages lands under wilderness review until congress either designates these lands as Wilderness or releases them for other purposes. The purpose of the policy is to guide BLM staff in day-to-day management decisions for lands under wilderness review.

Glossary

LAND USE PLAN	A plan that reflects an analysis of activity systems and a carefully studied estimate of future land requirements for expansion, growth control, and revitalization or renewal. The plan shows how development in the area should proceed in the future to insure the best possible physical environment for living, the most economic and environmentally sensitive use of land, and the proper balance in use from a cost revenue point of view. The land use plan embodies a proposal as to how land should be used in the future, recognizing local objectives and generally accepted principals of health, safety, convenience, economy, and general living amenities.
LEASE	An authorization or contract by which one party (lessor) conveys the use of property, such as real estate, to another (lessee) in return for rental payments. In addition to rental payments, lessees also pay royalties (a percentage of value) to the lessor from resource production.
LEASABLE MINERAL	A mineral such as oil shale, oil and gas, phosphate, potash, sodium, geothermal resources, and all other minerals that may be developed under the Mineral Leasing Act of 1920, as amended.
LEAVE-NO-TRACE	Promotes skills and ethics to support the sustainable use of wildlands and natural areas.” The Bureau of Land Management, U.S. Forest Service, Fish and Wildlife Service and the National Park Service use this concept as a way to help recreationists minimize their impacts while enjoying the outdoors. Seven principles outline the strategy for reducing damage caused by outdoor activities, particularly non-motorized uses.
LOW-INCOME	Defined in terms of Bureau of the Census annual statistical poverty levels (Current Population Reports, Series P-60 on Income and Poverty).
MANAGEMENT FRAMEWORK PLAN (MFP)	BLM land use plan, predecessor to the RMP.
MECHANICAL TREATMENT	Use of mechanical equipment for seeding, brush management, and other management practices.
MINERAL ENTRY	The location of mining claims by an individual to protect his/her right to a valuable mineral.
MINERAL WITHDRAWAL	A withdrawal for public lands which are potentially valuable for leasable minerals. This precludes the disposal of the lands except with a mineral reservation, or unless the lands are found to not be valuable for minerals.
MINORITY	Defined by the U.S. Census as individuals who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic.
MITIGATION MEASURES	Constraints, requirements, or conditions imposed to reduce or eliminate an anticipated impact to environmental, socioeconomic, or other resource value from a proposed action.

Glossary

MONITORING	The periodic and systematic collection of resource data to measure progress toward achieving objectives.
MULTIPLE-USE MANAGEMENT	Management of public land and resource values to best meet various present and future needs of the American people. This means coordinated management of resources and uses to assure the long-term health of the ecosystem.
NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (NEPA)	NEPA is the basic national charter for protection of the environment. It establishes policy, sets goals, and provides means for carrying out the policy. It also contains action-forcing provisions to ensure that Federal agencies follow the letter and spirit of the Act.
NATIONAL WILD AND SCENIC RIVERS SYSTEM	<p>Established by the Wild and Scenic Rivers Act of 1958 to protect rivers and their immediate environments that have outstanding scenic, recreation, geologic, fish and wildlife, historic, cultural, and other similar values and are preserved in free-flowing conditions. The system provides for the designation of three types of rivers:</p> <p>Recreation: Rivers or sections of rivers readily accessible by road or railroad that may have some development along their shorelines and may have undergone some impoundment or diversion in the past.</p> <p>Scenic: Rivers or sections of rivers free of impoundments, with shorelines or watersheds still largely undeveloped, but accessible in places by road.</p> <p>Wild: Rivers or sections of rivers free of impoundments and generally inaccessible except by trails, with essentially primitive watersheds or shorelines and unpolluted waters.</p>
NATURAL EMPASIS (NE) WILDERNESS AREA	<p>Focuses on restoring natural conditions in areas that have been impacted by human use. Management in such a zone would focus on maintaining and enhancing the natural, pristine aspects of wilderness.</p> <p>NE Wilderness proposed under Alternative C include: the High Rock Lake, Calico Mountains, Black Rock Desert, High Rock Canyon, East Fork High Rock Canyon, and Little High Rock Canyon Wilderness Areas and the Lahontan Cutthroat Trout Wilderness Study Area.</p>
NATURALNESS	An area that generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable.
NON-FUNCTIONING	Riparian-wetland areas that clearly are not providing adequate vegetation, landform, or large woody debris to dissipate stream energy associated with high flows.
NONVASCULAR PLANT	Plants that do not have specialized tissues for conducting water and synthesizing foods, as any moss or liverwort.
OFF-HIGHWAY VEHICLE (OHV)	Any motorized vehicle designed for or capable of cross-country travel over lands, water, sand, snow, ice, marsh, swamp-land, or other terrain.

Glossary

OFF-HIGHWAY VEHICLE DESIGNATIONS

Open: Designated areas and trails where OHVs may be operated.

Limited: Designated areas and trails where the use of an OHV is subject to restrictions, such as limiting the dates and times of use (seasonal restrictions); limiting use to designated roads and trails; limiting use to existing roads and trails. Combinations of restrictions are possible.

Closed: Designated areas, roads, and trails where the use of an OHV is permanently or temporarily prohibited. Emergency use of vehicles is allowed.

PARTICULATE MATTER

Very fine sized solid matter or droplets, typically averaging one micron or smaller in diameter.

PERMIT

A short-term, revocable authorization to use public lands for specific purposes.

PERMITTEE

A person or organization legally permitted to graze a specific number and class of livestock on designated areas of public land during specified seasons each year.

POINT-TO-POINT ORIENTEERING TRAILS

Non-constructed trails without clearly defined paths. They are corridors without specific borders, in which the hiker or horseman may choose their own route. The purpose is to avoid leaving a beaten path, thereby minimizing the impact to fragile desert soils and vegetation.

PRESCRIBED BURNING

Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions which allow the fire to be confined to a predetermined area and at the same time to produce the fire line intensity and rate of spread required to attain planned resource management objectives.

PRESCRIBED FIRE

Controlled application of fire to natural fuels under conditions of weather, fuel moisture, and soil moisture that would allow confinement of the fire to a predetermined area and, at the same time, would produce the intensity of heat and rate of spread required to accomplish certain planned benefits to one or more objectives to wildlife, livestock, and watershed values. The overall objectives are to employ fire scientifically to realize maximum net benefits at minimum environmental damage and acceptable cost.

PRESCRIPTION

Written statement defining objectives to be attained, as well measurable criteria, which guide the selection of appropriate management actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations under which the fire would be allowed to burn.

PROJECT ARCHEOLOGY

An educational program designed by the Bureau of Land Management to: teach young Americans to value and protect our rich cultural heritage; strengthen children's sense of personal responsibility for the stewardship of American's cultural heritage; and to use the vast historic and archaeological resources under the custody of the Bureau of land management to support the education of America's children.

Glossary

PROPERLY FUNCTIONING CONDITION (PFC)

Riparian-wetland areas are functioning properly when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows, thereby reducing erosion and improving water quality; filter sediment; capture bedload, and aid floodplain development; improve flood-water retention and ground-water recharge; develop root masses that stabilize streambanks against cutting action; develop diverse ponding and channel characteristics to provide the habitat and the water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity.

PUBLIC LAND

Any land or interest in land owned by the United States and administered by the Secretary of the Interior through the Bureau of Land Management.

RANGELAND

Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

RANGELAND IMPROVEMENTS

Any activity or program on or relating to rangelands that is designed to improve forage production, change vegetation composition, control patterns of use, provide water, stabilize soil and water conditions, and enhance habitat for livestock, wildlife, and wild horses and burros. Rangeland improvements include land treatments (e.g., chaining, seeding, burning, etc.), water developments, fences, and trails.

RAPTORS

Birds of prey, such as the eagle, falcon, hawk, owl, or vulture.

RECREATION AND PUBLIC PURPOSES ACT (R&PP)

Allows the disposal of public lands to any state, local, federal, or political instrumentality or nonprofit organization for any recreational or public purpose, at the discretion of the authorized officer.

REHABILITATION

The activities necessary to repair damage or disturbance caused by wildfire or the fire suppression activity.

RESOURCE MANAGEMENT PLAN (RMP)

A land use plan as described by the Federal Land Policy and Management Act to guide resource management and use allocation on public lands and resources administered by the BLM.

RIGHT-OF-WAY

A permit or an easement that authorizes the use of public land for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, and reservoirs. It is also the reference to the land covered by such an easement or permit.

RIGHT RIDER

Right Rider etiquette promotes trail ethics for motorized users in an effort to protect OHV opportunities. The Forest Service and BLM use this approach to influence OHV users to, "Respect the land, the wildlife, and the rights of others. Ride Responsibly."

Glossary

RIGHT-OF-WAY CORRIDOR	A parcel of land that has been identified by law, Secretarial Order, through a land use plan or by other management decision as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way which are similar, identical or compatible.
RIPARIAN HABITAT	Riparian habitat is defined as an area of land directly influenced by permanent (surface of subsurface) water and has visible vegetation or physical characteristics reflective of permanent water influence.
RIPARIAN VEGETATION	Plants adapted to moist growing conditions along streams, waterways, ponds, or other permanent water body.
ROAD	A transportation facility used primarily by vehicles having four or more wheels, documented as such by the owner and maintained for regular and continuous use.
ROUTE	A roadlike feature used by vehicles having two, three, four or more wheels, but not declared a road by the owner and which receives no maintenance to guarantee regular and continuous use.
RUNOFF	Water that is not absorbed by the soil and flows to lower ground, eventually draining into a stream, river, or other body of water.
SALEABLE MINERALS	Minerals that may be sold under the Material Sale Act of 1947, as amended. Included are common varieties of sand, stone, gravel, and clay.
SCENIC RIVER	A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.
SEDIMENT	Soil, rock particles and organic or other debris carried from one place to another by wind, water or gravity.
SENSITIVE SPECIES	Species not yet officially listed but that are undergoing status review for listing on the Fish and Wildlife Service official threatened and endangered list; species whose populations are small and widely dispersed or restricted to a few localities; and species whose numbers are declining so rapidly that official listing may be necessary.
SERAL STAGE	The ecological status of several successional stages of plant community development resulting in the formation of a stable community. Seral stages begin with an early seral stage and end with a late-seral stage near or at the climax stage.
SOIL	A natural, three-dimensional body at the earth's surface capable of supporting plants. It has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.
SOLITUDE	The state of being alone or remote from habitations of people in a lonely, unfrequented, or secluded place.

Glossary

SPECIAL RECREATION MANAGEMENT AREA (SRMA)	An area where recreation is the principal management objective, where intensive recreation management is needed, and where more than minimal recreation related investments are required.
SPECIAL STATUS SPECIES	Plant or animal species known or suspected to be limited in distribution, rare or uncommon within a specific area, and/or vulnerable to activities which may affect their survival. Wildlife and plant species can either be Federally listed or proposed for listing as endangered or threatened, state-listed, or BLM determined priority species.
TRAIL (NON-EMIGRANT TRAILS)	A land facility used primarily for foot traffic, beasts of burden and various special equipment or machinery generally used for individual travel. Facilities used by jeep or four-wheel drive are typically classified as "roads or ways"
TREAD LIGHTLY	"Through education, restoration and research, Tread Lightly! empowers generations to enjoy the outdoors responsibly." Tread Lightly! Is another educational program focused n minimizing impacts caused through recreational uses, both motorized and non-motorized.
TREND	The direction of change in ecological status observed over time. Trend is described as toward or away from the potential natural community, or as not apparent.
TWO-WHEEL-DRIVE (2WD)	Vehicle clearance generally lower than with a 4WD and not designed to travel off-pavement.
UTILITY	A service provided by a public utility, such as electricity, telephone, or water.
VEGETATION TREATMENT	Changing the characteristics of an established vegetation type for the purpose of improving rangeland forage or wildlife habitat resources. Treatments are designed for specific areas and differ according to the area's suitability and potential. The most common land treatment methods alter the vegetation by chaining, spraying with pesticides, burning, and plowing, followed by seeding with well adapted desirable plant species.
VISITOR DAY	Twelve visitor hours which may be aggregated by one or more persons in single or multiple visits.
VISITOR USE	Passive or active recreational activity on public land, which may involve either consumptive or non-consumptive use of the resources.

Glossary

VISUAL RESOURCE MANAGEMENT (VRM) CLASSES

Management classes are determined on the basis of overall scenic quality, distance from travel routes, and sensitivity to change.

Class I: Provides primarily for natural ecological changes only. It is applied to wilderness areas, some natural areas, and similar situations where management activities are to be restricted.

Class II: Changes in the basic elements caused by a management activity may be evident in the characteristic landscape, but the changes should remain subordinate to the visual strength of the existing character.

Class III: Changes in the basic elements caused by a management activity may be evident in the characteristic landscape, but the changes should remain subordinate to the visual strength of the existing character.

Class IV: Changes may subordinate the original composition and character but must reflect what could be a natural occurrence within the characteristic landscape.

WATERSHED

All land and water within the confines of a drainage divide.

WAY

A roadlike feature used by vehicles having four or more wheels, but not declared a road by the owner and which receives no maintenance to guarantee regular and continuous use.

WETLANDS

Lands including swamps, marshes, bogs, and similar areas, such as wet meadows, river overflows, mud flats, and natural ponds.

WILD AND SCENIC RIVERS

A river or river section designated by Congress or the Secretary of the Interior, under the authority of the Wild and Scenic Rivers Act of 1968, to protect outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values and to preserve the river or river section in its free-flowing condition. The law recognizes three classes of rivers - wild, scenic, and recreational.

WILD HORSES AND BURROS

Unbranded and unclaimed horses and burros that use public land as all or part of their habitat, and are protected under the Wild Free-Roaming Horse and Burro Act.

WILD RIVER

A river or section of a river that is free of impoundments and generally inaccessible except by trail, with watersheds and shorelines essentially primitive and waters unpolluted.

WILD EMPHASIS (WE) WILDERNESS AREA

Focuses on the wild, untrammeled, unmanipulated aspects of wilderness. WE wilderness proposed under Alternative C include: the North Jackson Mountains, South Jackson Mountains, North Black Rock Range, and Pahute Peak Wilderness Areas.

Glossary

WILDERNESS AREA

An area designated by Congress and defined by the Wilderness Act of 1964 as a place "where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain." Designation is aimed at ensuring that these lands are preserved and protected in their natural condition. Wilderness areas, which are generally at least 5,000 acres or more in size, offer outstanding opportunities for solitude or a primitive and unconfined type of recreation; such areas may also contain ecological, geological, or other features that have scientific, scenic, or historical value.

Also see Natural Emphasis and Wild Emphasis Wilderness Areas.

WILDERNESS INVENTORY

A written description of resource information and accompanying map of those public lands that meet the wilderness criteria as established under Section 603 (a) of FLPMA and Section 2 (c) of the Wilderness Act.

WILDERNESS STUDY AREA (WSA)

An area designated by a Federal agency as having wilderness characteristics, thus making it worthy of consideration by Congress for wilderness designation. While Congress considers whether to designate a WSA as permanent wilderness, the Federal agency managing the WSA does so in a manner as to prevent impairment of the area's suitability for wilderness designation.

WILDFIRE

An unwanted wildland fire, regardless of ignition source, which is unplanned, has escaped control, or does not meet management objectives and therefore requires a suppression response.

WILDLAND FIRE

Any nonstructure fire, other than prescribed fire, that occurs in the wildland.

WITHDRAWAL

Removal or "withholding" of public lands from operation of some or all of the public land laws (settlement, sale, mining, and/or mineral leasing). An action which restricts the use or disposal of public lands, segregating the land from the operation of some or all of the public land and/or mineral laws and holding it for a specific public purpose. Withdrawals may also be used to transfer jurisdiction of management to other Federal agencies.



Moonrise over the Playa

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